# J2SS Mark II
## (Machine Code: A251/A252)

# Service Manual
## *– Insert Version –*

The A251/A252 machines are based on the A163 copier.

Only the differences from the base copier are described in the following pages. Therefore, this documentation should be treated as an insert version of the base copier's service manual. It should always be utilized together with the base copier's service manual.

# INSERTION PROCEDURE OF SERVICE MANUAL

1. Replace the book spine tag with the new one.
2. Insert the A251/A252 service manual after the A163 manual.

# ⚠ IMPORTANT SAFETY NOTICES

## PREVENTION OF PHYSICAL INJURY

1. Before disassembling or assembling parts of the copier and peripherals, make sure that the copier power cord is unplugged.
2. The wall outlet should be near the copier and easily accessible.
3. Note that some components of the copier and the peripherals are supplied with electrical voltage even if the main switch is turned off.
4. If any adjustment or operation check has to be made with exterior covers off or open while the main switch is turned on, keep hands away from electrified or mechanically driven components.
5. The inside and the metal parts of the fusing unit become extremely hot while the copier is operating. Be careful to avoid touching those components with your bare hands.
6. The copier is not attached to the table. Pushing the copier too hard may cause it to drop onto the floor. While moving the copier, push the table.
7. When the main switch is turned on, the machine will suddenly start turning to perform the developer initialization. Keep hands away from any mechanical and electrical components during this period.

## HEALTH SAFETY CONDITIONS

1. Never operate the copier without the ozone filters installed.
2. Always replace the ozone filters with the specified ones at the specified intervals.
3. Toner and developer are non-toxic, but if you get either of them in your eyes by accident, it may cause temporary eye discomfort. Try to remove with eye drops or flush with water as first aid. If unsuccessful, get medical attention.

## OBSERVANCE OF ELECTRICAL SAFETY STANDARDS

1. The copier and its peripherals must be installed and maintained by a customer service representative who has completed the training course on those models.
2. **Caution:** The RAM pack on the main control board has a lithium battery which can explode if replaced incorrectly. Replace the RAM pack only with an identical one. The manufacturer recommends replacing the entire RAM pack. Do not recharge or burn this battery. Used RAM packs must be handled in accordance with local regulations.

## SAFETY AND ECOLOGICAL NOTES FOR DISPOSAL

1. Do not incinerate the toner cartridge or the used toner. Toner dust may ignite suddenly when exposed to open flame.
2. Dispose of used toner, developer, and organic photoconductors according to local regulations. (These are non-toxic supplies.)
3. Dispose of replaced parts in accordance with local regulations.
4. When keeping used RAM packs in order to dispose of them later, do not put more than 100 RAM packs per sealed box. Storing larger numbers or not sealing them apart may lead to chemical reactions and heat build-up.

# 1. OVERALL MACHINE INFORMATION



## 1.1 SPECIFICATIONS

| | |
|---|---|
| Configuration: | Table top |
| Copy Process: | Electrostatic transfer system |
| Original Feed: | Sheet feed |
| Original Size: | Maximum: 914 x 2,000 (36" x 80")mm<br>Minimum: A4 (8 1/2" x 11") lengthwise |
| Copy Size: | Same as “Original Size” |
| Copying Speed: | 3 cpm (A1/D sideways) |
| First Copy: | 24 seconds (A1/D sideways): A251 copier<br>30 seconds (A1/D sideways): A252 copier |
| Warm-up Time: | Within 5 minutes (Room temperature 23°C) |
| Multi-Copy: | 1 to 1 only (A251 copier), 1 to 10 (A252 copier) |
| Automatic Reset: | 2 minutes after copying is finished (can be set to 1, 3, 4, or 5 minutes or to no auto reset) |
| Photoconductor: | Organic photoconductor drum |
| Drum Charge: | Single-wire with grid plate (Negative Charge) |
| Reproduction Ratio: | 1 : 1 (±0.5%) |
| Exposure System: | Slit exposure via fiber optic array |
| Exposure Lamp: | Fluorescent lamp (26 W) |
| Development: | Dual-component dry toner system |
| Toner Replenishment: | Cartridge system (750 g toner/cartridge) |
| Toner Consumption: | 1,860 A1 or D copies per cartridge (6% original) |
| Development Bias: | Negative |
| Toner Density Control: | Direct toner density detection by induction sensor |
| Image Density Adjustment: | Development bias control + exposure control |
| Paper Separation: | Dual wire ac corona and pick-off pawls |
| Cleaning: | Cleaning blade |
| Paper Feeding: | Manual feed (roll feeder optional) |
| Image Fusing: | Heat and pressure type, teflon (upper) and silicone rubber (lower) rollers |
| Fusing Lamp: | Nichrome wire lamp<br>(115 V: 1,100 W, 230 V: 1,100 W) |
| Self-diagnostic Codes: | 13 codes, displayed in copy counter |

| | |
|---|---|
| Power Source: | 115 V/60 Hz..... 12 A<br>220 V/50 Hz..... 7 A<br>230 V/50 Hz..... 7 A<br>240 V/50 Hz..... 7 A |
| Power Consumption: | Maximum: 1.4 kW<br>Warm-up: 1.2 kW<br>Ready: 0.04 to 1.2 kW<br>Copy cycle: 1.4 kW |
| Dimensions (W x D x H): | A251: 1,080 x 570 x 490 mm<br>42.1" x 22.2" x 19.1"<br>A252: 1,080 x 623 x 480 mm<br>42.1" x 24.6" x 18.9" |
| Weight: | A251: 79 kg, 174.0 lb<br>A252: 80 kg, 176.2 lb |

Optional Equipment and Machine Configuration

| Configuration | | Additional equipment |
|---|---|---|
| **Main frame** | **Optional equipment** | |
| A251 copier | Roll feeder (A571-06, 07) | Table (A714-05) |
| | Roll cutting rail (A570-06) | — |
| | Side guides (A569-06) | — |
| A252 copier | Roll feeder (A571-06, 07) | Table (A836-00) |
| | Copy tray (A836-10) | Table (A836-00) |
| | Side guide (A569-06) | — |

**NOTE:** 1) Roll cutting rail cannot be installed on the A252 copier.
2) Key counter cannot be installed on these copiers.

Other Optional Equipment

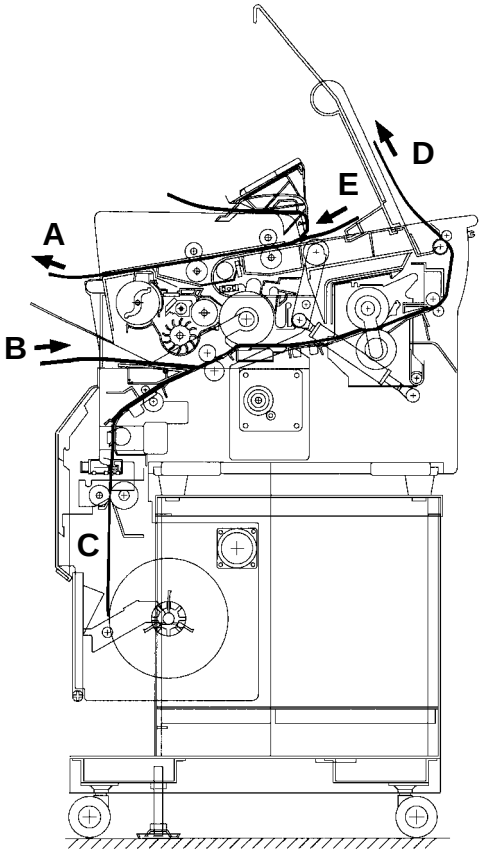
- Paper Spool
- Drum anti-condensation heater

Specifications are subject to change without notice.

# 1.2 PAPER PATH

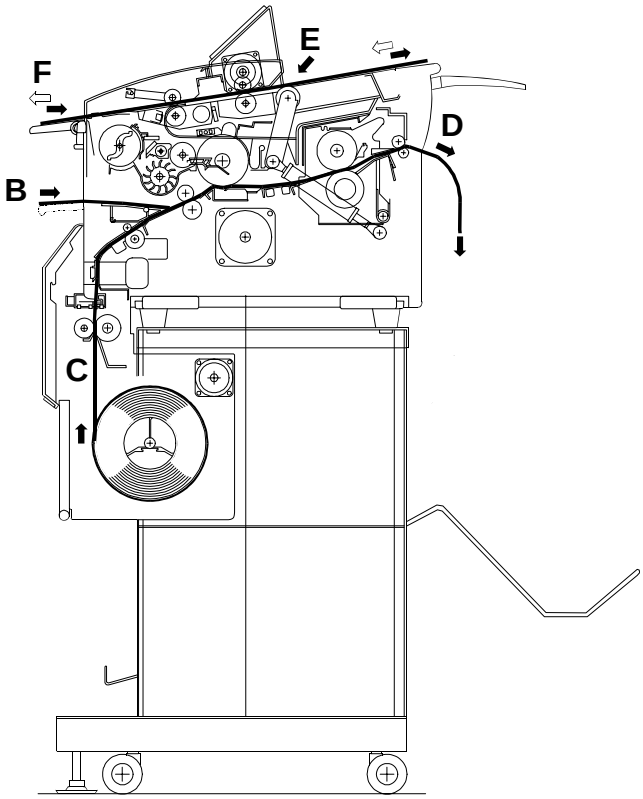


**- A251 copier -**




A252V500.PCX

**- A252 copier -**




A252V504.WMF

A: Original Path (A251 copier)

B: Paper from the manual feed

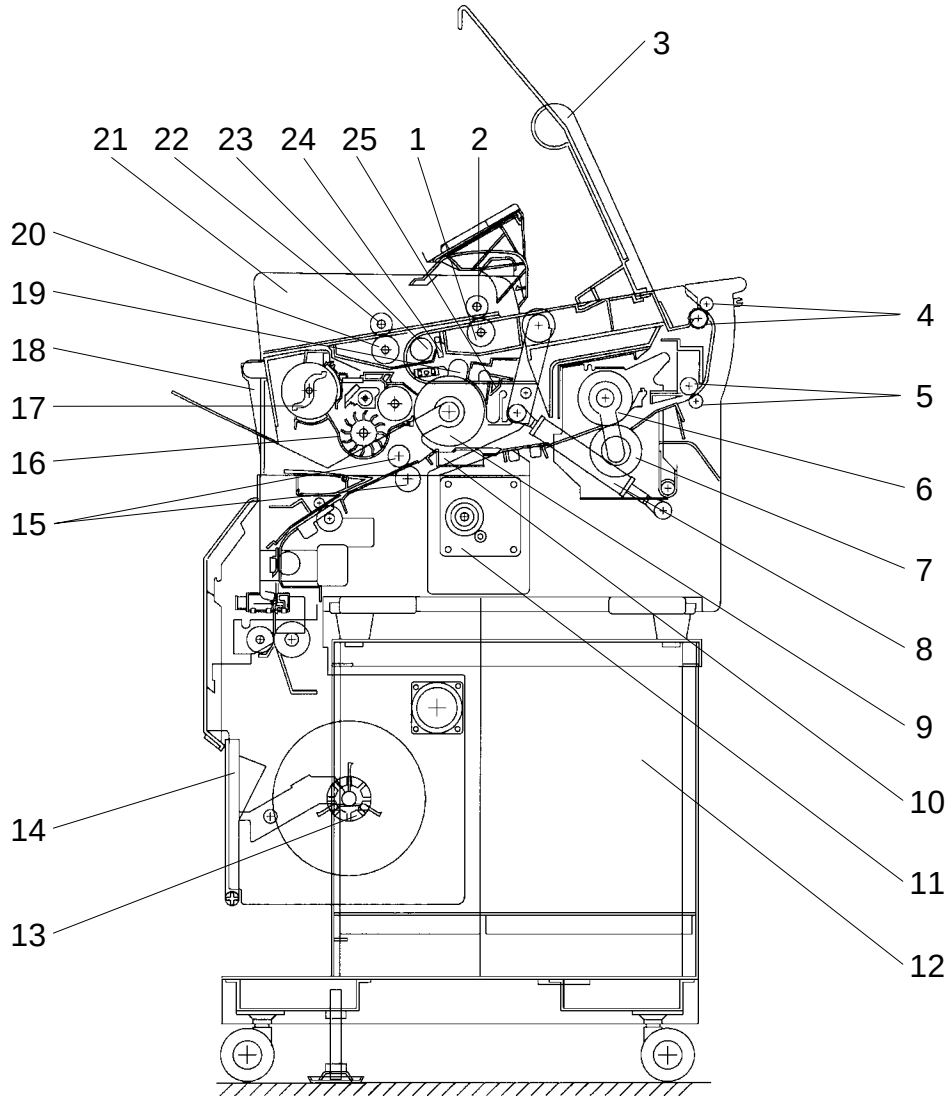
C: Paper from the roller feed

D: Paper exit

E: Original Path from Rear Feeder

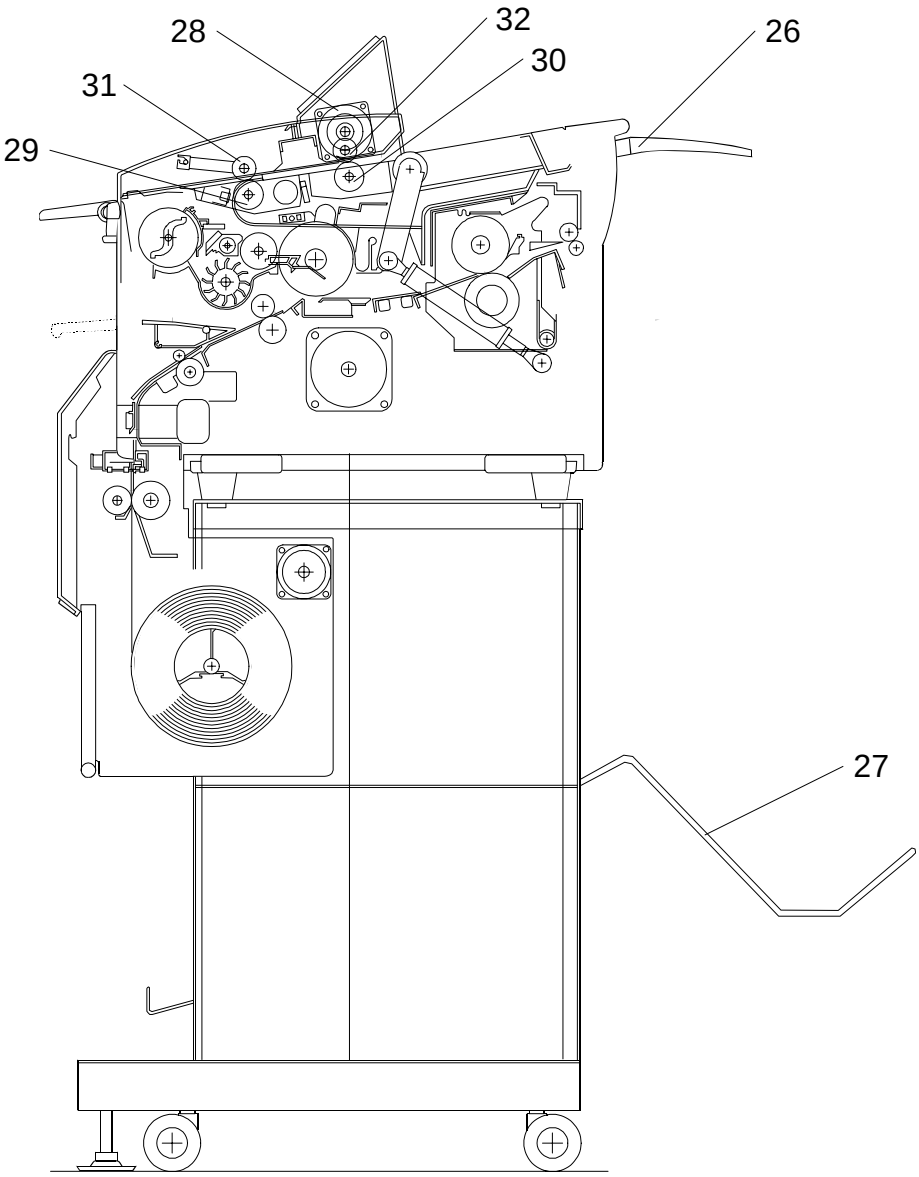
F: Original Path (A252 copier): Switching back

# 1.4 MECHANICAL COMPONENT




A252V502.PCX

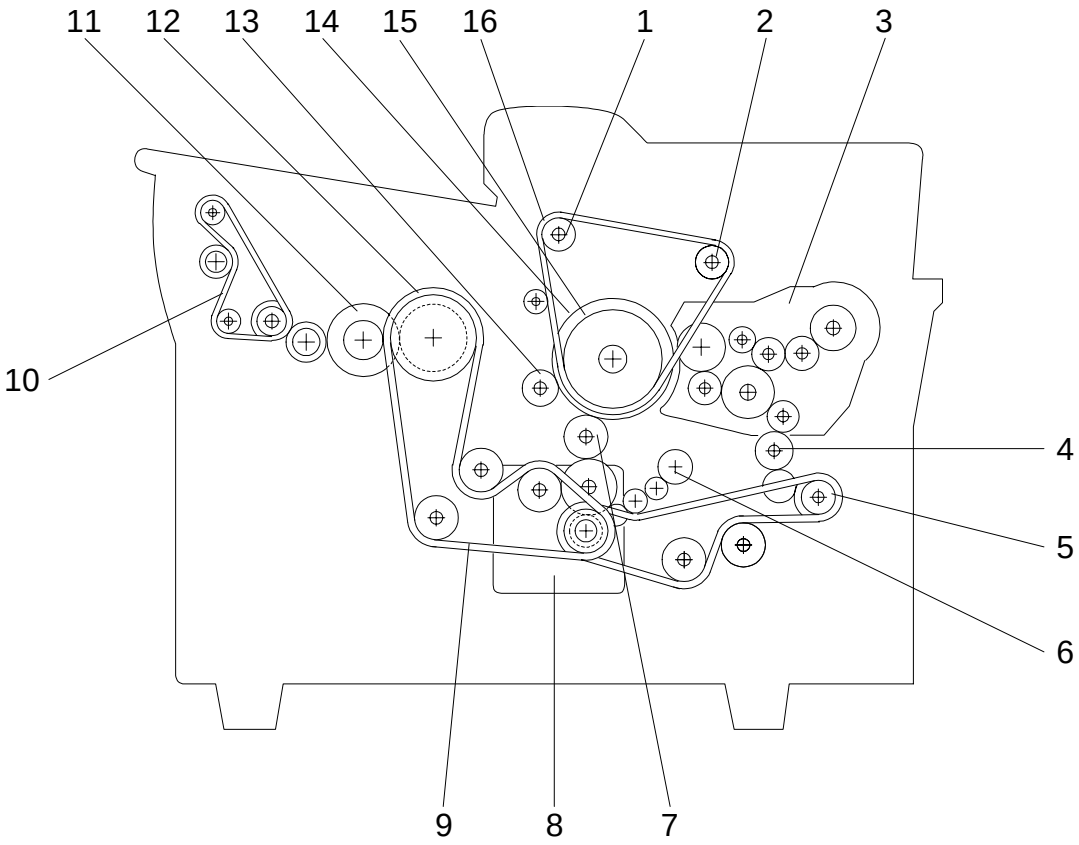
1. 1st Original Feed Roller
2. 1st Press Rollers
3. Copy Tray
4. Exit Rollers
5. Fusing Exit Rollers
6. Hot Roller
7. Pressure Roller
8. Gas Spring
9. OPC Drum
10. T/S Corona Unit
11. Main Drive Unit
12. Table
13. Paper Spool
14. Roll Feeder
15. Paper Registration Rollers
16. Development Unit
17. Toner Cartridge
18. Manual Feed Table
19. Charge Corona Unit
20. 2nd Original Feed Roller
21. Original Table
22. 2nd Original Press Roller
23. Exposure Lamp
24. Fiber Optic Array
25. Cleaning Blade




A252V505.WMF

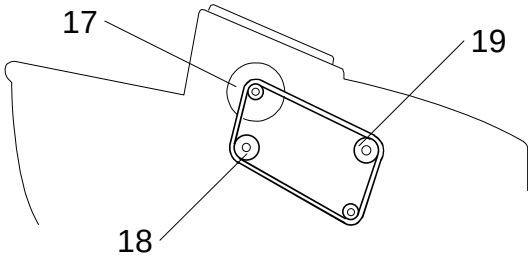
26. Original Guide
27. Rear Copy Tray (Option Copy Tray)
28. Original Feed Motor
29. Original Entrance Roller
30. Original Rear Roller
31. Original Entrance Press Roller
32. Original Rear Press Roller

# 1.5 DRIVE LAYOUT




A252V503.WMF

**- A252 copier only -**




A252V501.WMF

1. Original Feed Roller Pulley
2. Original Feed Roller One Way Pulley
3. Development Unit
4. Development Unit Relay Gear
5. Development Drive Chain
6. Paper Registration Roller Clutch
7. Drum Drive Relay Gear
8. Main Motor
9. Fusing Drive Chain
10. Exit Unit Drive Belt
11. Hot Roller Drive Gear
12. Fusing Drive Sprocket/Gear
13. Toner Collection Coil Drive Gear
14. Drum Drive Gear
15. Original Feed Drive Pulley
16. Original Feed Drive Belt
17. Original Feed Motor
18. Original Rear Roller Pulley
19. Original Entrance Roller Pulley

# 1.6 ELECTRICAL COMPONENT DESCRIPTIONS

Refer to the electrical component layout on the reverse side of the Point to Point (Water proof paper) index numbers.

| Name | Function | Index. No. |
|---|---|---|
| **Motors** | | |
| Main | Drives all mechanical components except the fans. (DC Motor) | 32 |
| Exhaust Fan | Removes the ozone built up around the drum section to the ozone filter. (DC Motor) | 5 |
| Original Feed (A252 only) | Drives the original feed motor. (dc motor) | 45 |
| | | |
| **Magnetic Clutches** | | |
| Registration | Drives the registration rollers. | 30 |
| Toner Supply | Turns on to supply toner to the development unit. | 31 |
| | | |
| **Solenoids** | | |
| Pick-off Pawl | Moves the pick-off pawls against the drum. | 6 |
| | | |
| **Switches** | | |
| Main | Supplies power to the copier. | 17 |
| Original & Paper Feed Safety | Cuts ac power when the original or paper feed unit is opened. | 18 |
| Fusing Exit Safety | Cuts ac power when the fusing exit unit is opened. | 12 |
| | | |
| **Sensors** | | |
| Door Open | Indicates “Door Open” in the operation panel and prohibits the key operation. | 29 |
| Toner Density | Detects the density of toner in the developer. | 26 |
| Original Registration | Detects when the original lead edge passes at the front of the exposure glass. | 4 |
| Light | Detects the intensity of the exposure lamp output. | 27 |
| Entrance Feed | Detects when copy paper is inserted (jam detector). | 24 |
| Registration | Detects when copy paper arrives at the registration rollers (jam detector). | 25 |
| Exit | Detects jams through the fusing exit unit. | 7 |
| Original Entrance (A252 only) | Detects the original length and the original jam. | 43 |
| Original Rear (A252 only) | Detects the original jam. | 44 |
| Exit Cover Open | Indicates “Door Open” in the operation panel and prohibits the key operation. | 47 |

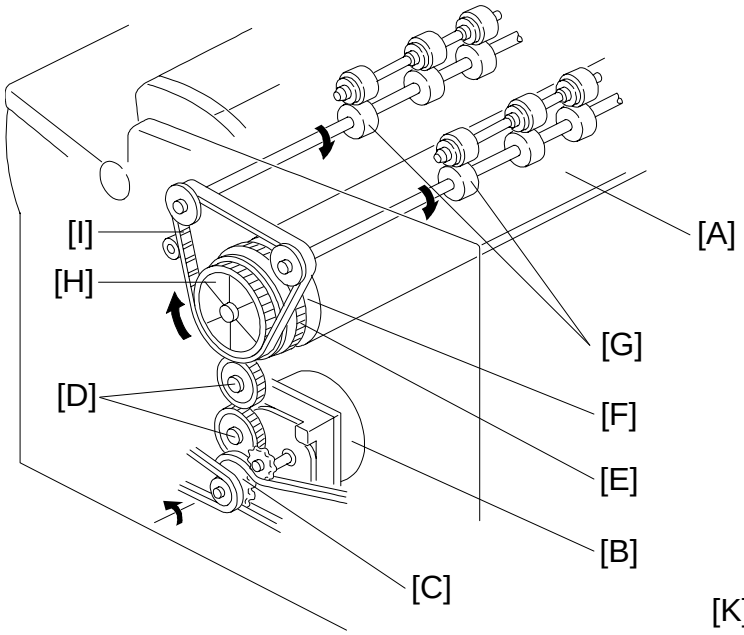
| Name | Function | Index. No. |
|---|---|---|
| **Printed Circuit Boards** | | |
| Main | Controls all copier functions both directly and through other PCBs. | 22 |
| PSU | Converts the ac voltage to dc voltage. | 21 |
| AC Drive | Provides ac power to the fusing lamp and PSU. | 15 |
| FL Regulator | Stabilizes power to the exposure lamp. | 23 |
| Operation Panel | Control the operation panel display. | 10 |
| Original Feed Drive (A252 only) | Controls the rotation of the original feed motor. | 46 |
| | | |
| **Lamps** | | |
| Exposure | Provides light to reflect the original's image onto the drum (fluorescent lamp). | 2 |
| Fusing | Provides heat to the fusing unit. | 3 |
| Pre-Transfer (PTL) | Reduces the charge on the drum surface prior to image transfer. | 20 |
| Quenching (QL) | Neutralizes any charge remaining on the drum surface after cleaning. | 1 |
| | | |
| **Power Packs** | | |
| Charge/Bias/ Grid Power Pack | Provides high voltage power for the charge corona, charge grid, and development bias. | 19 |
| Transfer/Separation | Provides high voltage power for the transfer corona and separation. | 16 |
| | | |
| **Thermistors** | | |
| Hot Roller | Monitors the hot roller's surface temperature. | 8 |
| Pressure Roller | Monitors the pressure roller's surface temperature. | 11 |
| | | |
| **Thermofuses** | | |
| Fusing | Protects against fusing overheat. | 9 |
| | | |
| **Heaters** | | |
| Anticondensation | Keeps moisture from forming inside the copier (option). | 13 |
| | | |
| **Others** | | |
| Total Counter | Keeps track of the total length of copies made (Europe) or the total copies made (U.S.A.). | 28 |
| Circuit Breaker (Europe, Asia)/ Fuse (U.S.A.) | Guards against voltage surges in the input power. | 14 |
| | | |

# 2. DETAILED SECTION DESCRIPTIONS

## 2.1 DRUM

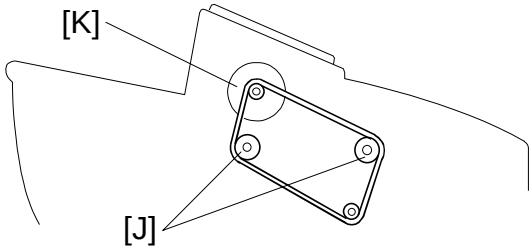
### 2.1.2 DRUM DRIVE






A252D502.WMF

**- A252 copier only -**




A252D503.WMF

The OPC drum [A] is 80 millimeters in diameter and 970 millimeters long. It turns constantly when the main motor [B] is on.

When the main motor turns on, the drive is transmitted to the drum as follows:

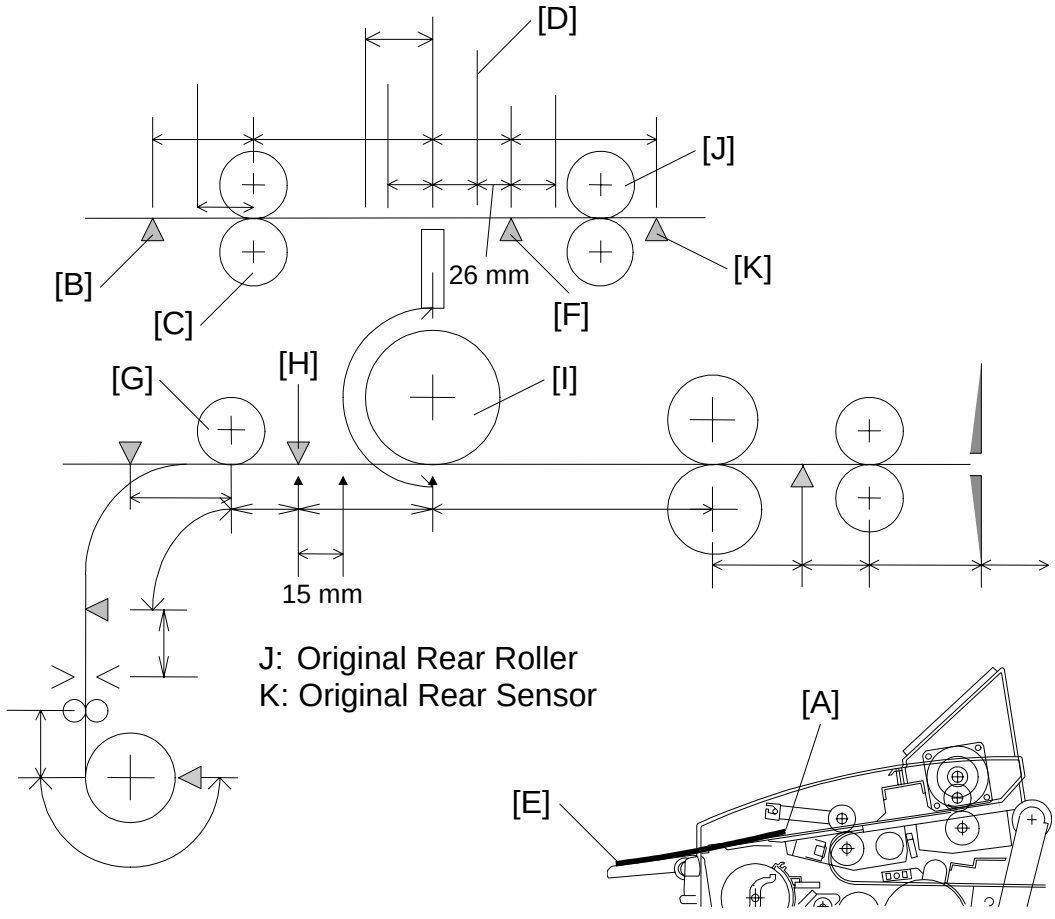
main motor drive gear [C] ⇒ idle gears [D] ⇒ drum drive gear [E] ⇒ drum flange [F] ⇒ drum

When the drum knob is tightened, the right flange presses firmly against the drum so that the drum is held tightly between the flanges. The drum and flanges turn together when the main motor is on. At this time, the drive is also transmitted to the original feed rollers [G] through the original feed drive pulley [H] and belt [I] (A251 copier).

The original feed rollers [J] (original entrance and rear rollers) for the A252 copier are driven by the original feed motor [K].

# 2.3 EXPOSURE

## 2.3.2 PAPER AND ORIGINAL FEED (A252 ONLY)




A252D500.WMF

A252D501.WMF

In this machine (A252 copier), first, the leading edge [A] of the original is inserted into the original table and the original is delivered to the appropriate start position. Then the original is switched back while it is being scanned. Therefore, the original is scanned from the trailing edge to the leading edge.

When an original is placed on the original table, it activates the original entrance sensor [B]. The main motor starts rotating and the quenching lamp, development bias, and PTL begin. Then, the exposure lamp turns on. To ensure correct original feeding (especially for a thin original), the original is returned toward the operator side (300 ms) before the original feed. Thus the original will be fed evenly by each roller on the original entrance roller [C].

4 seconds after the original entrance sensor is activated, the original feed motor starts rotating 200 mm/s to turn the original entrance rollers [C]. The original is delivered to the original feed start position [D]. The 4 second delay allows time for the operator to align the trailing edge (non-operator side) against the first set of the rollers (to prevent skewing).

When the original entrance sensor is turn off by the trailing edge [E] of the original, the roll paper feed motor turns on and paper feeding starts.
When the trailing edge of the original reaches the original feed start position (26 mm ahead of the original registration sensor [F]), the original feed motor stops to wait for the copy paper.
The registration clutch is activated after paper feed begins. The copy paper is fed to the registration roller [G] and the registration clutch turns off when the copy paper reaches 15 mm ahead of the registration sensor [H]. The voltage is applied to the charge corona.
At the appropriate time the original feed motor rotates 50 mm/s in opposite direction and the original is delivered to the exposure glass. The registration clutch and roll paper feed motor turn on again after the trailing edge of the original passes the original entrance sensor. The paper feed resumes and the copy paper is transported to the drum [I].
To measure the original length for synchro-cutting, the copier CPU measures the time from when the original registration sensor detects the leading edge of the original until the original entrance sensor detects the trailing edge of the original (delivering the original to appropriate start position). The copy paper length is measured by counting the number of steps as the roll paper feed motor (stepper motor) turns. Just before the cut length of the copy paper is fed, the speed of the roll paper feed motor is doubled. A paper buckle forms at the trailing edge of the copy paper. When the copy paper is fed out to the appropriate length, the roll paper feed motor stops and the cutter unit cuts the paper.
When making duplicate copies, at the appropriate time after the trailing edge of the original passes at the original registration sensor, the rotation of the original feed motor changes in the opposite direction and the speed of the original feed motor changes to 200 mm/s. The roll paper feed motor starts again. The original is delivered to the original feed start position and roll paper feed starts again. The above process is repeated. After all the duplicates have been made, the original is stopped and caught by the original entrance roller (original hold mode: SP16). If the original hold mode is canceled by SP16, the original is fed out without being caught in the original entrance roller.
When the original hold mode is selected, the original is fed out when the C/⊘ key is pressed.

# 2.4 DEVELOPMENT

## 2.4.2 TONER DENSITY CONTROL

### *Recovery from Toner End Condition*

After replacing the toner cartridge (opening and closing the original feed unit), the main motor rotates the development unit for 60 seconds. During this period, toner is supplied at 100% of the supply amount until TS level reaches 3. Then, the main motor rotates the development unit for another 30 seconds. Then copies can be made.

If the TS level does not reach 3 after rotation of the development unit, the CPU stops the machine and displays the toner end condition. This prevents the operator from resetting the toner end condition by simply opening and closing original feed unit.

# 2.8 FUSING AND PAPER EXIT

## 2.8.1 OVERVIEW (A252 COPIER)

The copy paper is delivered to the lower paper exit.

The location of the fusing exit sensor is different from the A163 and A251 copier. Except for this difference, the A252 copier is identical to the with A251 and A163 copiers. Please refer to A163 copier service manual for details.

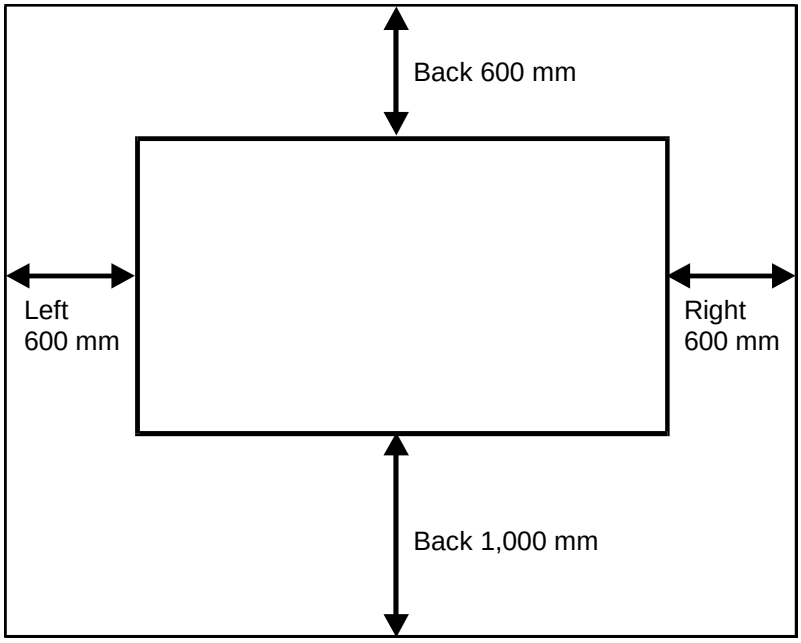
# 3. INSTALLATION

## 3.1 INSTALLATION REQUIREMENTS

### 3.1.1 ENVIRONMENT

1. Temperature Range: 15°C to 30°C (59°F to 86°F)
2. Humidity Range: 20% to 80% RH
3. Ambient Illumination: Less than 1,500 lux (do not expose to direct sunlight).
4. Ventilation: Minimum space 20 $m^3$
   Room air should turn over at least 30 $m^3$/hr/person.
5. Ambient Dust: Less than 0.15 mg/$m^3$ (4 x $10^{-3}$ oz/$yd^3$)
6. If the installation place is air-conditioned or heated, place the machine as follows:
   a) Where it will not be subjected to sudden temperature changes from low to high, or vice versa.
   b) Where it will not be directly exposed to cool air from an air conditioner in the summer.
   c) Where it will be directly exposed to reflected heat from a space heater in the winter.
7. Avoid placing the machine in an area filled with corrosive gases.
8. Avoid any area higher than 2,000 m (6,500 ft) above sea level.
9. Place the machine on a strong and level base.
10. Avoid any area where the machine may be subjected to frequent strong vibration.

## 3.1.2 MINIMUM SPACE REQUIREMENTS




A252I505.WMF

1. Front: 1,000 mm (39 in)
2. Back: 600 mm (24 in)
3. Right: 600 mm (24 in)
4. Left: 600 mm (24 in)

## 3.1.3 MACHINE LEVEL

1. Front to back: Within 5 mm (0.2") of level
2. Right to left: Within 5 mm (0.2") of level

Make sure that the machine is level using a carpenter’s level.

## 3.1.4 POWER SOURCE

1. Input Voltage Level: 120 V, 60 Hz
   More than 12 A (for U.S.A. version)

   220 ~ 240 V, 50/60 Hz
   More than 7 A (for European version)
2. Permissible Voltage Fluctuation: ±10%
3. Do not set anything on the power cord.

**NOTE:** 1) Make sure the plug is firmly inserted in the outlet.
2) Avoid multi-wiring.

# 3.2 INSTALLATION PROCEDURE

## 3.2.1 COPIER

### *Accessory Check*

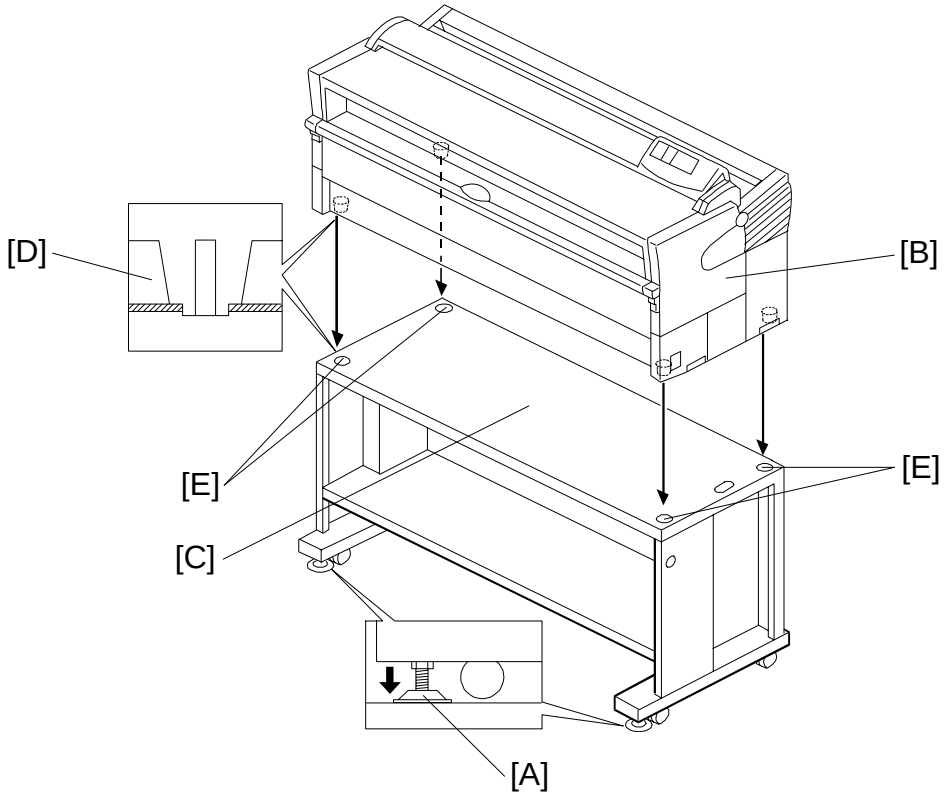
Check the accessories and their quantities according to the following list:

***- A252 copier -***

Original Guide..... 6 pcs
Operating Instruction Holder..... 1 pc

***- A251 copier -***

Guide Wire..... 2 pcs
Copy Tray..... 1 pc
Copy Guide..... 1 pc
Operating Instruction Holder..... 1 pc



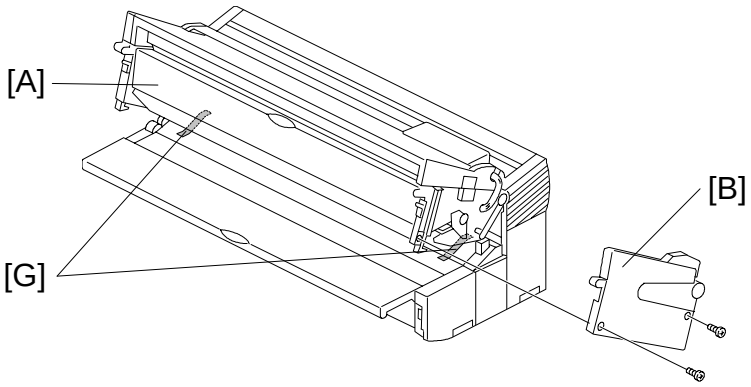

A252I500.WMF



1. Lower the feet [A] so that the table does not move while the copier is being installed on the table.
2. Place the copier [B] on the table [C] (Place the copier feet [D] into the table holes [E]).

**⚠WARNING**

**The copier is not attached to the table. Pushing the copier too hard may cause it to drop onto the floor. While moving the copier, push the table.**

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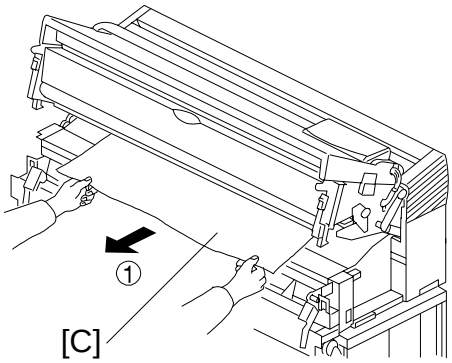


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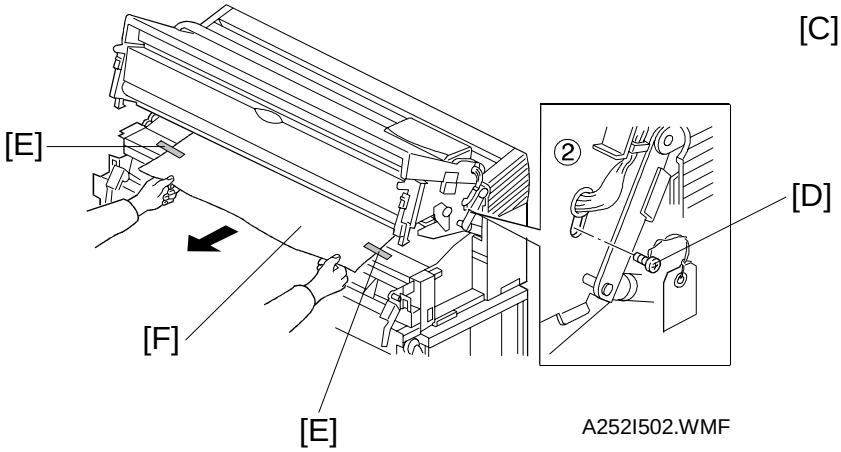
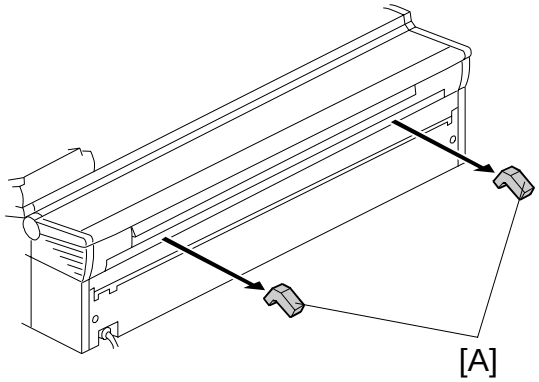



A252I502.WMF

3. Open the paper path section [A].
4. Remove the right upper cover [B] (2 screws).
5. Remove the drum protection sheet [C] and remove the screw [D] to apply cleaning blade pressure to the drum.
6. Open the fusing exit section. Remove the two strips of shipping tape [E] and protection sheet [F].
7. Remove two strips of shipping tape [G]. (Close the paper path section and fusing exit section.)

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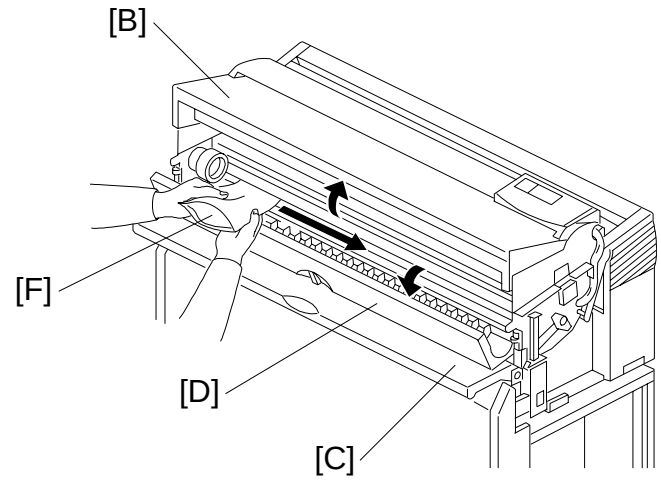


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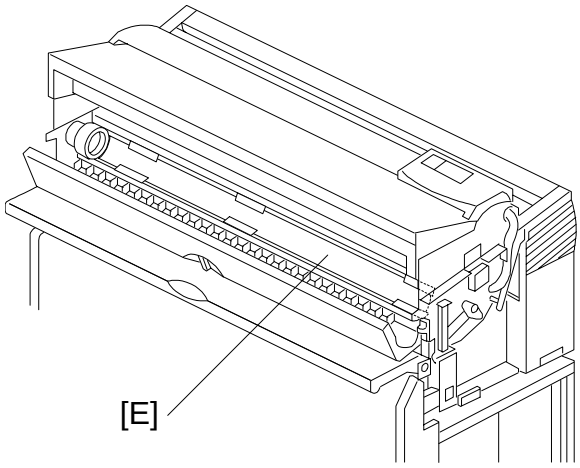


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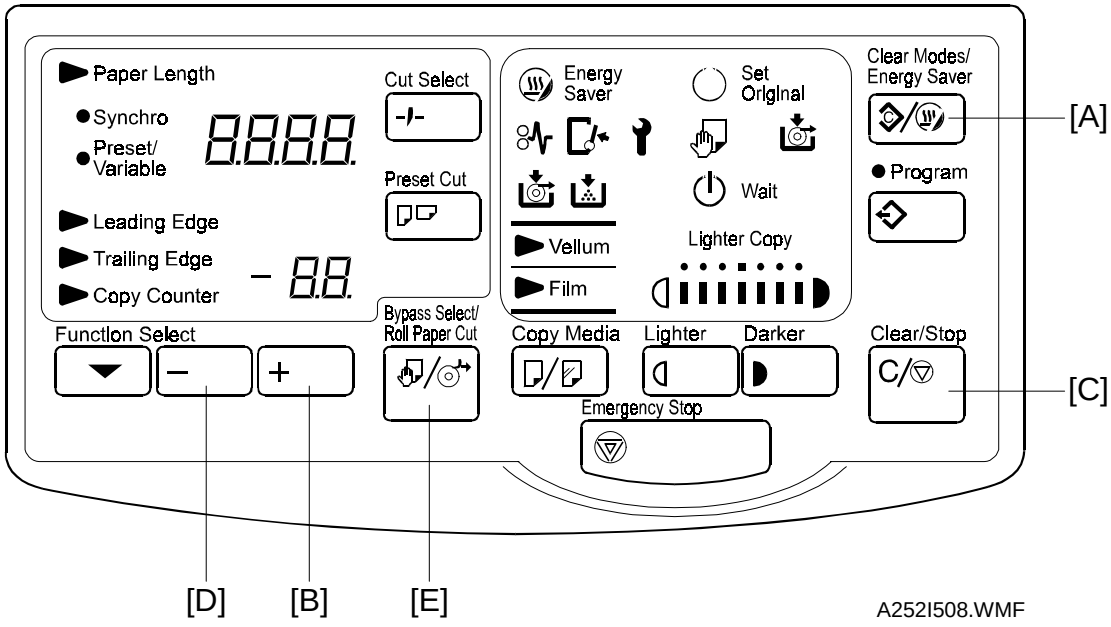
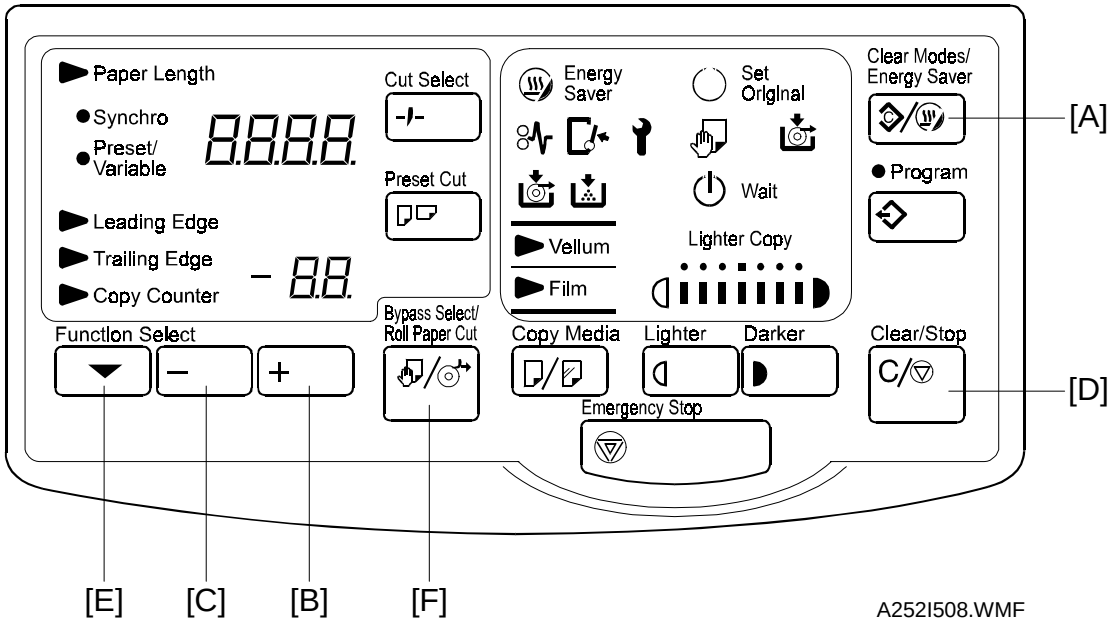
8. Remove two shipping cushions [A].
9. Open the original feed unit [B], manual feed table [C], and toner supply cover [D]. Remove a sheet [E] covering the developer entrance. Pour 1 kg of the developer [F] into the development unit evenly across its width as shown.
   **NOTE:** Close the paper path section while opening the toner supply cover. Otherwise, the toner supply cover will drop.
10. Plug in the power supply cord and turn on the main switch.

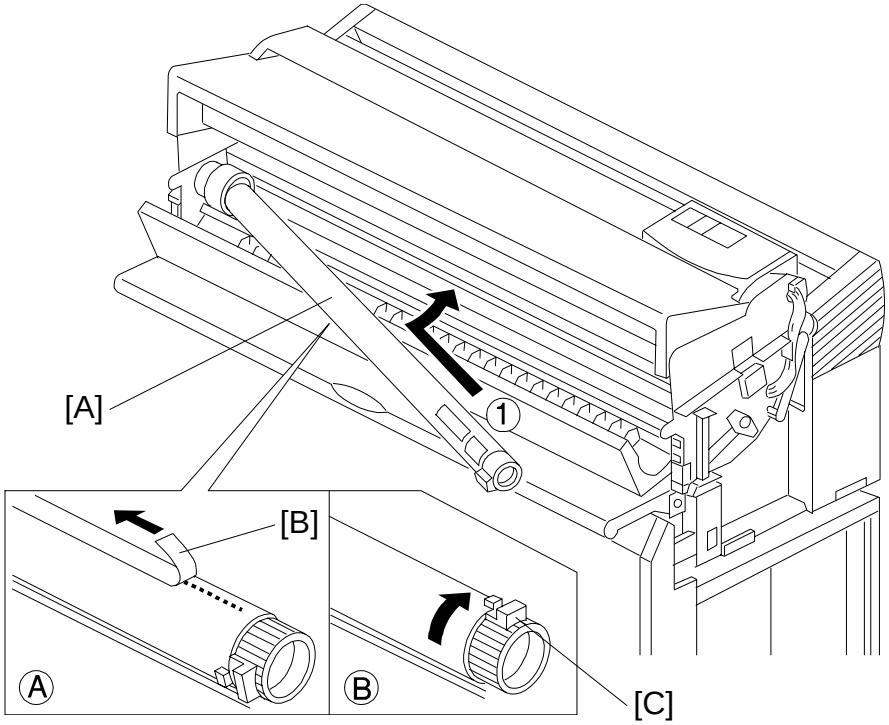



**NOTE:** If the fusing temperature is lower than 60°C when the main switch is turned on, the main motor will rotate. In this case, it is not necessary to access the SP mode to load the total 2kg of developer (Steps 11 to 14).
Turn off the main switch to stop the main motor after the developer is loaded from the development entrance. Then, pour in another kg of developer.

11. Press the following keys on the operation panel:
    Clear Mode key [A]
    + key [B]
    + key
    Clear/Stop key [C]
12. Press the Clear/Stop key again for longer than 3 seconds. The wrench and toner end indicators will blink (SP INPUT/OUTPUT mode).
13. Select 23 using the + key and – key [D] and press the RF Select key [E]. The main motor will rotate.
14. Press the RF Select key to stop the main motor after the developer is loaded from the development entrance. Pour in another kg of developer into the development unit evenly across its width (Total: 2 kg). Press the Clear Modes/Stand by key 3 times to leave the SP mode.




15. Press the following keys on the operation panel:
    Clear key [A]
    + key [B]
    – key [C]
    Clear/Stop key [D]
16. Press the Clear/Stop key again for longer than 3 seconds. The roll paper end and call service indicators will blink (SP mode).
17. Select 36 using the + and – keys. Enter “1” by pressing the following keys.
    Function Select key [E]
    + key
    RF Select key [F]
    Five minutes later, the copier will automatically return to the normal operating mode from SP mode.

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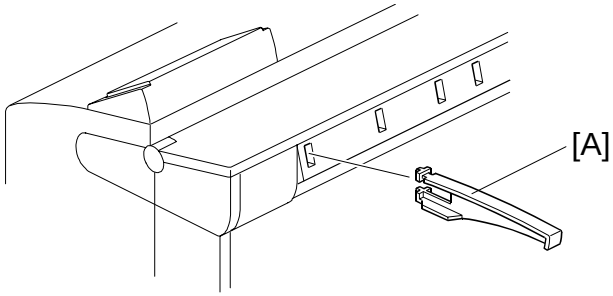
18. Install the toner cartridge [A] as shown.
19. Remove the sealing tape [B] from the cartridge and turn the knob [C] until it stops.

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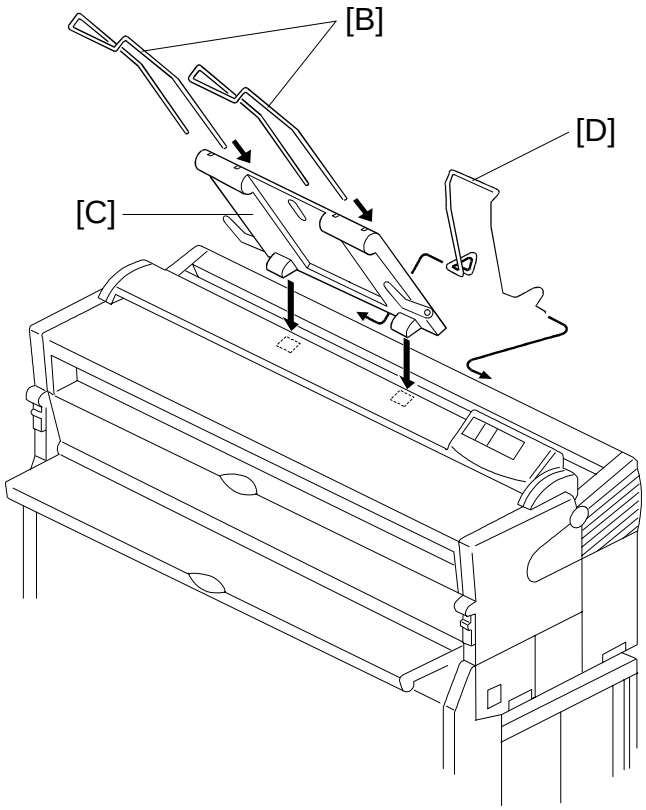


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### *A252 copier only (step 20)*

20. Install the original guides [A].

### *A251 copier only (step 21 and 22)*

21. Attach the guide wires [B] to the copy tray [C].
22. Install the copy tray [C] and copy guide [D].

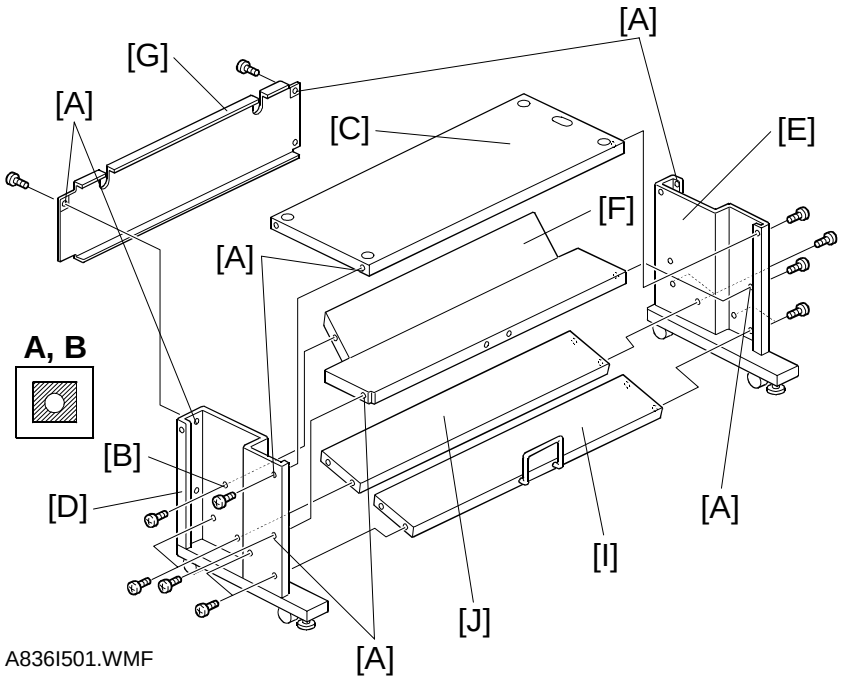
23. Reinstall all the covers.
24. Check the copy quality and copier operation.

## 3.2.2 TABLE (A836)

### *Accessory Check*

Check the accessories and their quantities according to the following list:

Top Plate ..... 1
Left Side Plate ..... 1
Right Side Plate ..... 1
Middle Plate ..... 1
Rear Cover ..... 1
Screws with Spring Washer - M4 x 8 .....14

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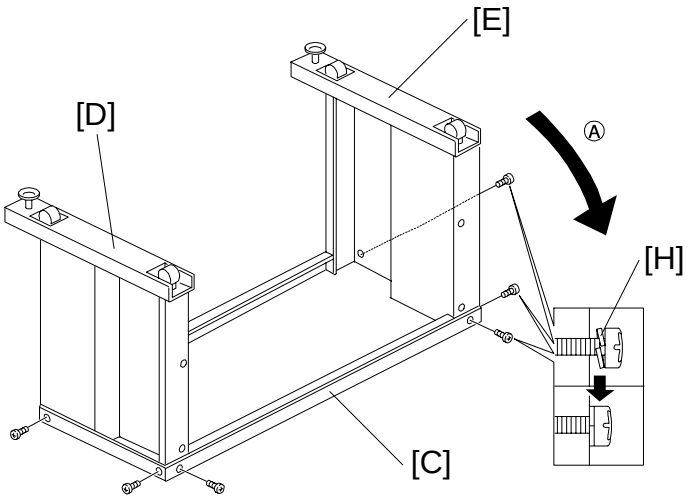



A836I500.WMF

**NOTE:** To ensure grounding, paint has been removed from the surfaces around the screw holes [A] (only from the surfaces where the two components meet) and from the surface around the screw hole [B] at the inside of the left plate.

1. Temporarily install the top plate [C], left [D], and right side plate [E] (6 screws).
2. Turn the table up-side down in the direction of A.
3. Install the middle plate [F] and rear cover [G] (4 screws each).

**NOTE:** If the optional copy tray is installed after copier installation, install the front copy tray stay [I] and rear copy tray stay [J] after step 3.

4. Tighten all the screws until the spring washers [H] of screws are flattened.
5. Put the table the correction way up.

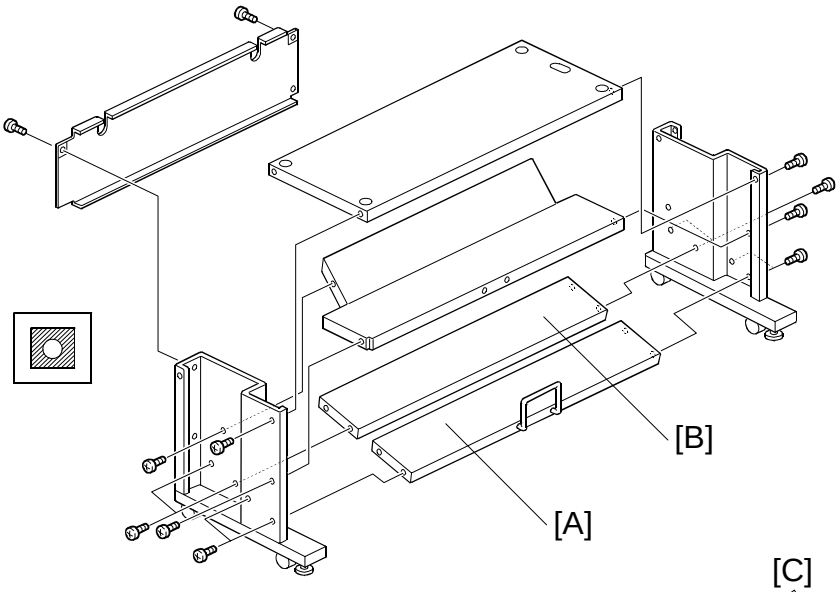
## 3.2.3 COPY TRAY (A836-10)

### *Accessory Check*

Check the accessories and their quantities against the following list:

- Front Copy Tray Stay..... 1
- Rear Copy Tray Stay ..... 1
- Copy Tray Support..... 1
- Copy Tray Guide ..... 2
- Copy Tray Sheet..... 3
- Nylon Clamp ..... 1
- Rear Copy Tray ..... 3
- Copy Tray Stopper..... 2
- Screw.....13
- Rear Copy Tray Sheet - Short ..... 2
- Rear Copy Tray Sheet - Center ..... 1

**NOTE:** The copy tray is an option for the A252 copier. When the copy tray is installed on the copier, the table (A836-00) is required.

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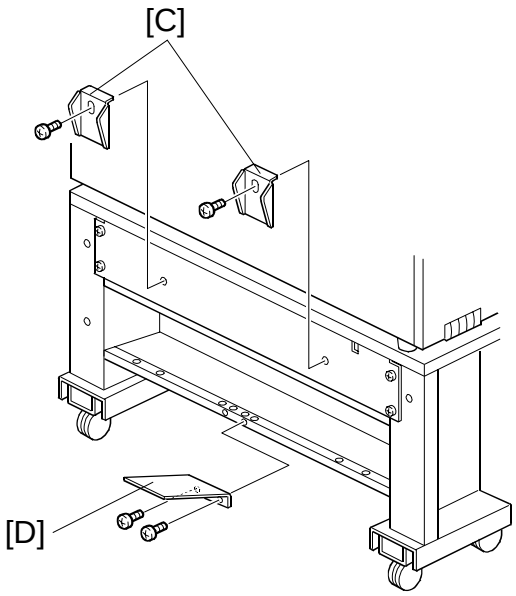


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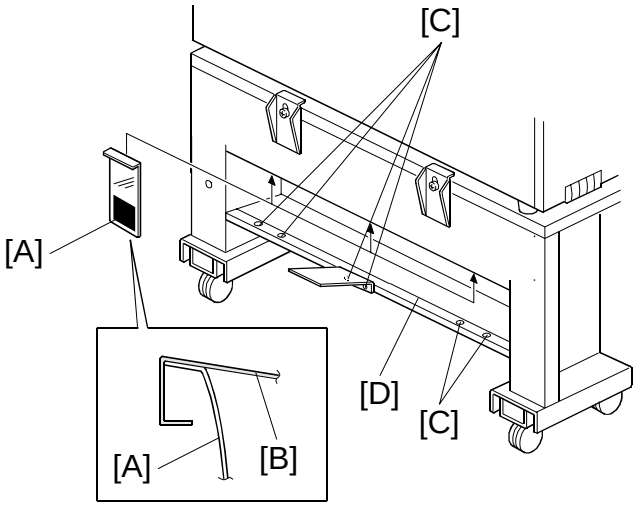
1. Install the front copy tray stay [A] and rear copy tray stay [B] (4 screws each).

**NOTE:** This step should be done during the table installation when the table and the copy tray are installed at the same time. Refer to the table installation procedure. If the copy tray is installed after the copier installation, remove the roll feeder and copier from the table, then loosen the screws of the table, then do step 1.

2. Install the copy tray guides [C] (1screw each).
3. Install the copy tray support [D] (2 truss screws).

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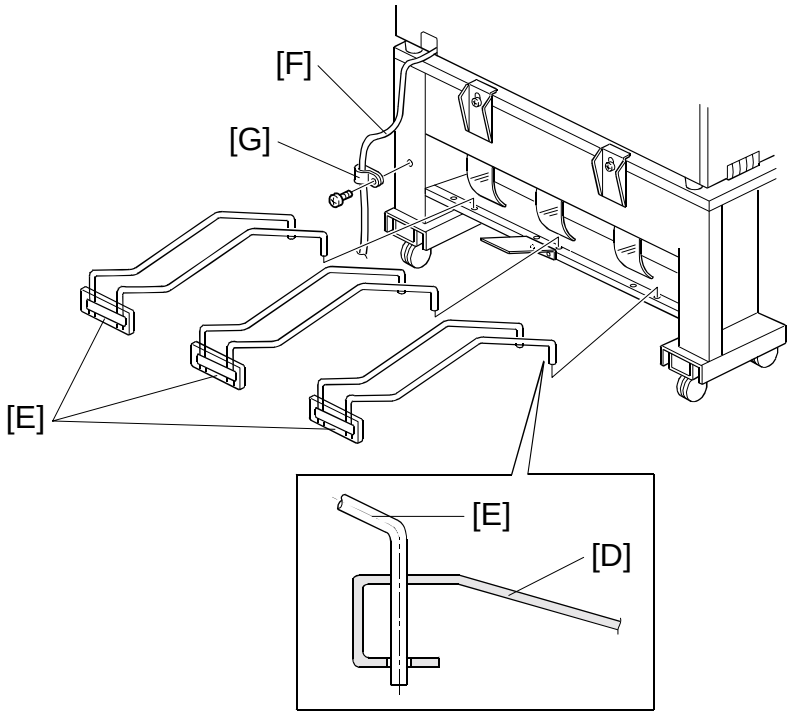


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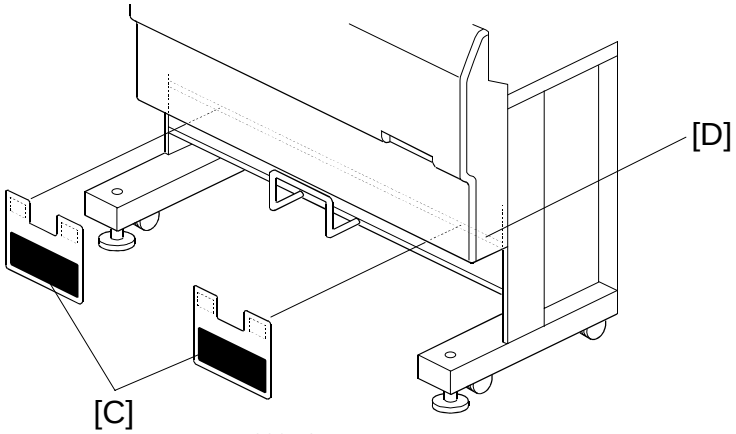
4. Adhere the copy tray sheets with rubber [A] to the middle plate [B] of the table so that the copy tray sheets are positioned between the screw holes [C] on the rear copy tray stay [D] as shown in the illustration.
5. Hook the rear copy trays [E] onto the rear copy tray stay [D].
6. Secure the copier power supply cord [F] to prevent the cord from interfering with the paper path (1 nylon clamp [G] and 1 screw).

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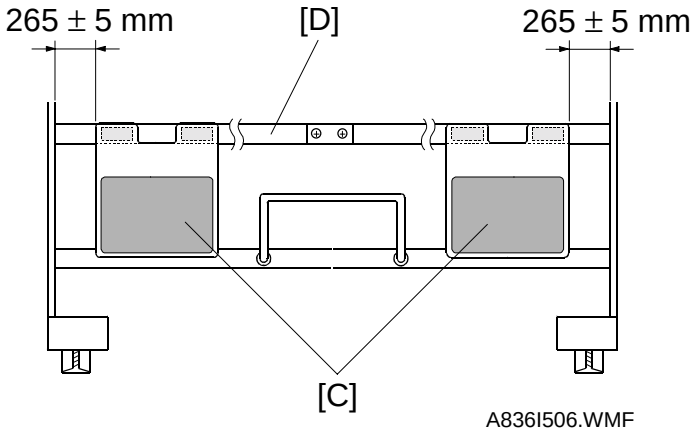


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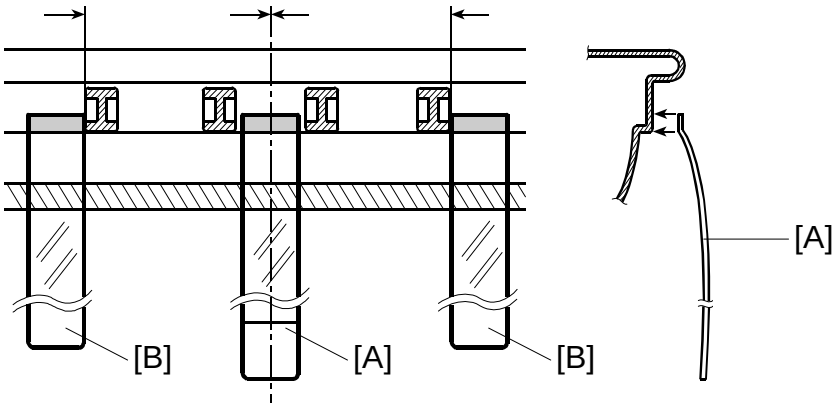



A836I508.WMF

7. Adhere the rear copy tray sheet - center (long) [A] and the two rear copy tray sheets - short [B] onto the exit cover as shown.
8. Adhere the copy tray stoppers [C] to the front side of the table middle plate [D].

## 3.2.4 ROLL FEEDER (A571)

**⚠CAUTION**

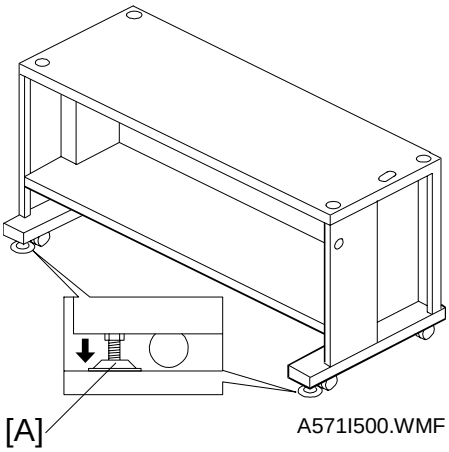
**Unplug the copier power cord before starting the following procedure.**

### *Accessory Check*

Check the accessories and their quantities according to the following list:

| | |
|---|---|
| Harness Cover | 2 pcs |
| Angle Bracket | 1 pc |
| Spacer | 1 pc |
| Small Cap | 1 pc |
| Screws - M4 x 8 | 8 pcs |
| Screws with Spring Washer - M4 x 8 | 2 pcs |
| Washer (220 ~ 240 V versions only) | 2 pcs |
| Ground Plate (220 ~ 240 V versions only) | 2 pcs |
| Screws with Spring Washer - M4 x 8 for Ground Plate (220 ~ 240 V versions only) | 2 pcs |

**NOTE:** When the Roll Feeder is installed on the copier, the table (A714 or A836) is required.

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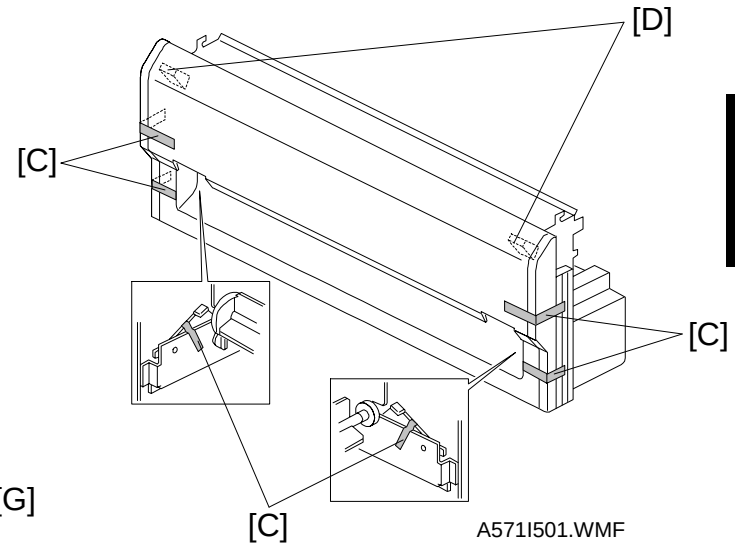


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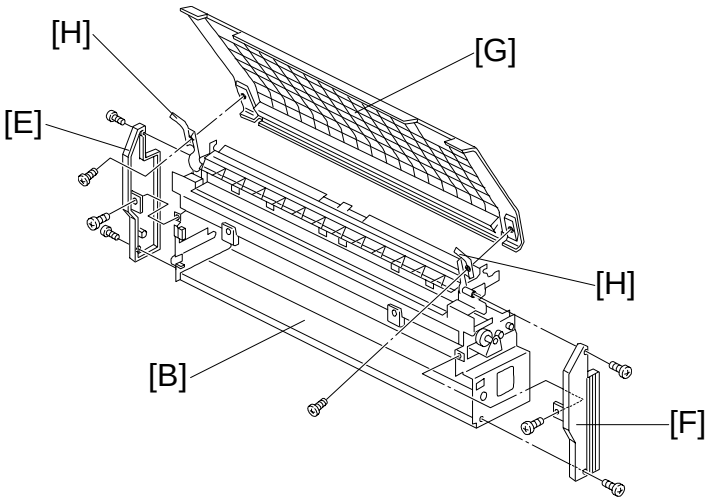
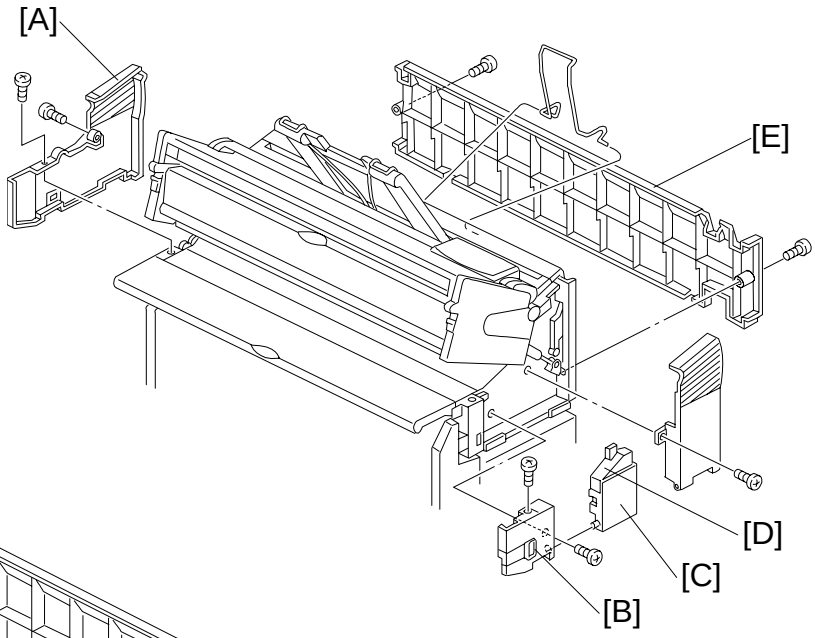



A571I502.WMF

1. Lower the feet [A] so that the table does not move while the roll feeder is being installed on the table and the copier.

**NOTE:** Do not place the roll feeder unit [B] onto the floor roughly, to prevent the left and right covers from being damaged.

2. Remove the shipping tapes [C] and shipping cushions [D].
3. Remove the left and right covers [E and F] (3 screws each).
4. Remove the front cover [G] (2 screws) and lower the front cover arms [H] to the down position.

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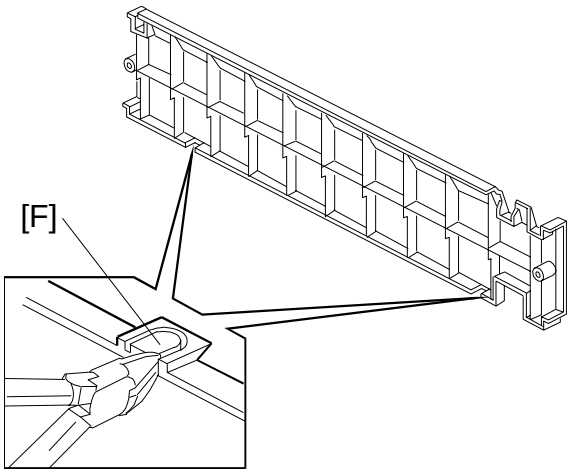


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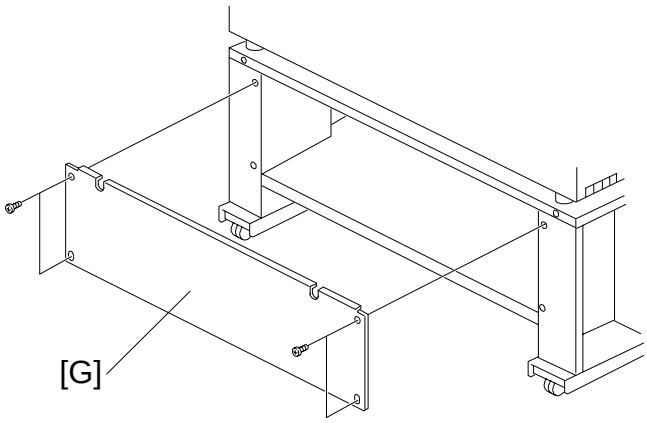


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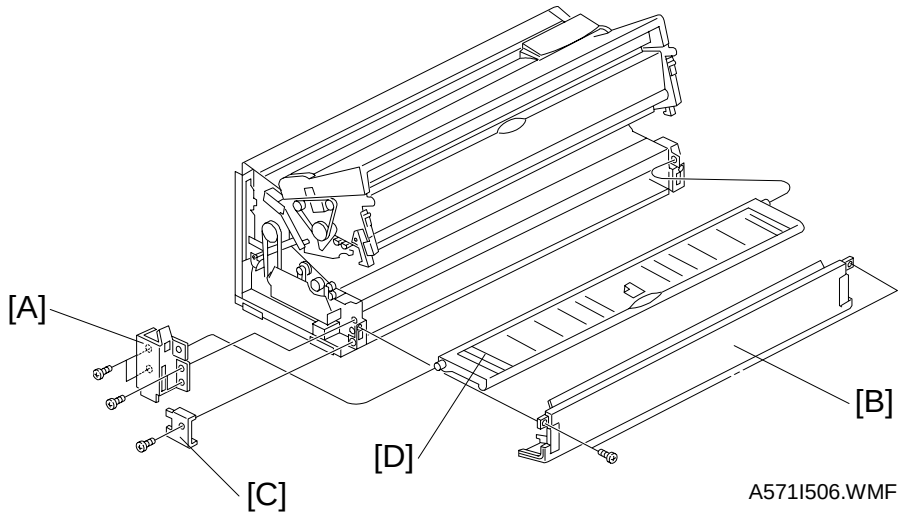
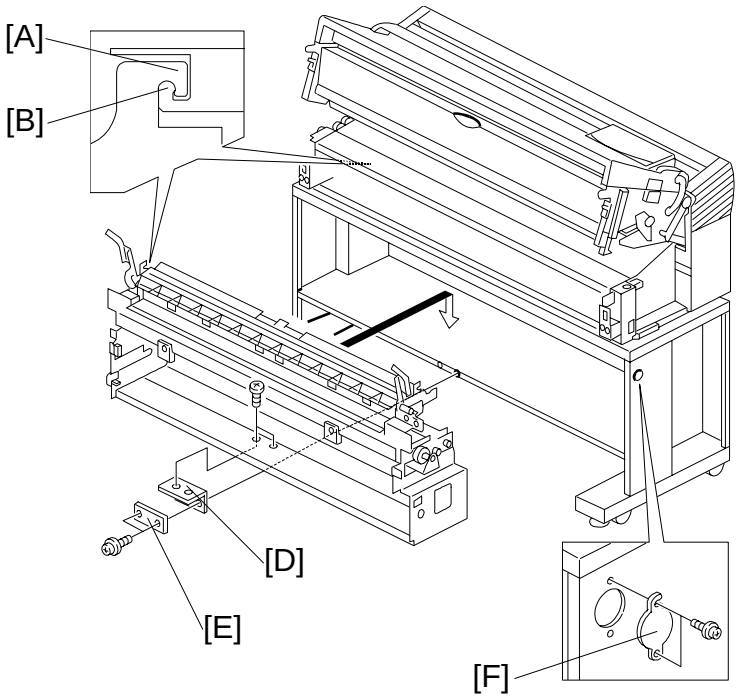
5. Open the copier paper path section and remove the copier left lower cover [A] (2 screws), lower right front cover [B] (2 screws), lower right middle cover [C], toner collection bottle [D], and rear cover [E] (2 screws).
6. Remove the small caps [F] from the copier rear cover using cutting pliers.
7. Remove the table rear cover [G] (4 screws).






**NOTE:** Take care not to drop the manual feed table when removing the bracket [A].

8. Remove the lower front cover [B] (2 screws), reinforcement plate [C] (1 screw), bracket [A] (4 screws) (which is changed by the harness), and the manual feed table [D].

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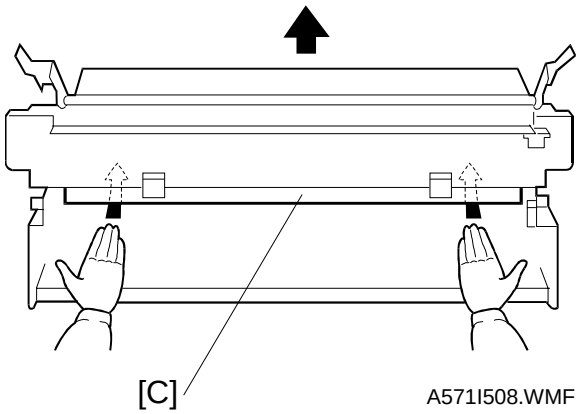


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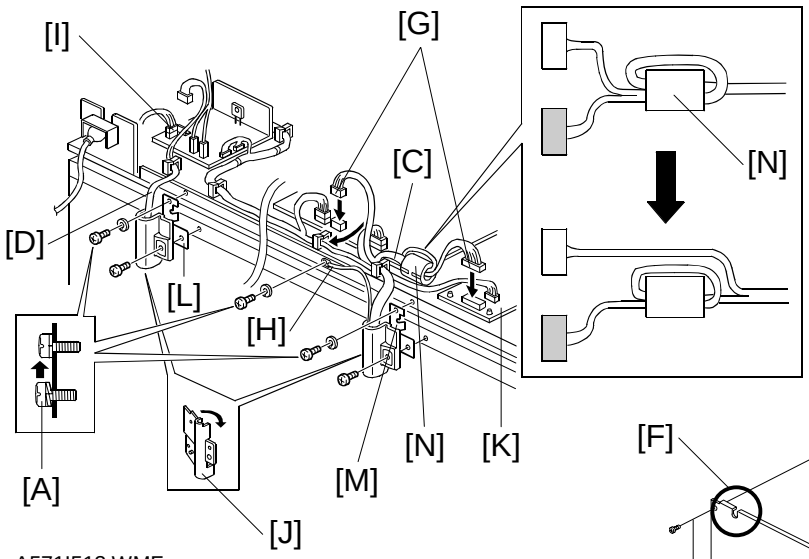
9. Mount the roll feeder unit on the copier (hook the mounting arms [A] on both sides into the mounting rail [B]).
   **NOTE:** Lift the unit by holding the plate [C] just under the size marks.
10. Install the angle bracket [D] and spacer [E] (4 screws).
11. Install the small cap [F] (2 screws).

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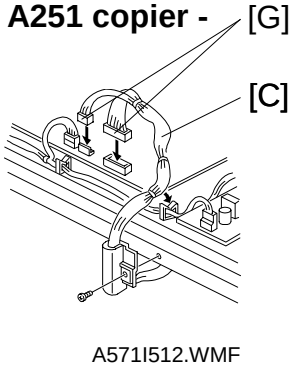
**- A251 copier -**

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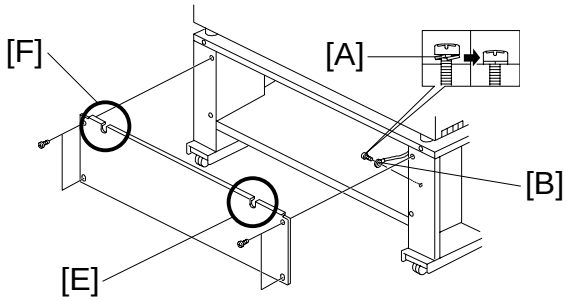


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**NOTE:** To ensure grounding, tighten the screws for the ground wire until the spring washers [A] are flattened.

12. Secure the grounding wire [B] (1 screw with spring washer) to the inside of the table.
13. Run the roll feeder harness [C] and roll feeder heater harness [D] through the holes in the table rear cover (right [E] and left [F]).

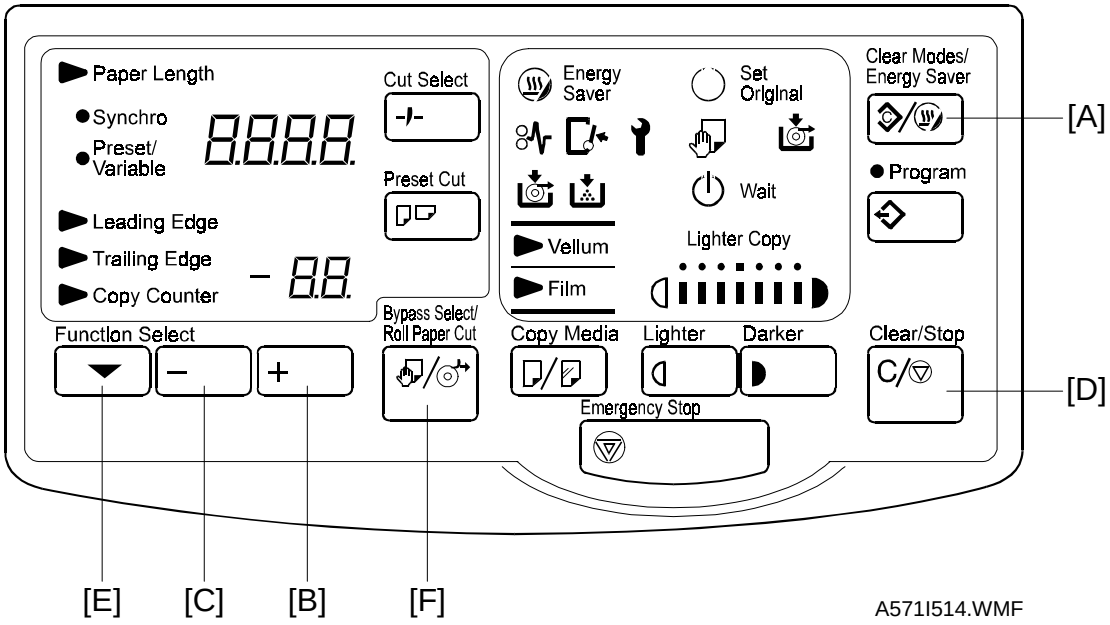
**NOTE:** There are two versions of the ferrite core [N] for the roll feeder harness. One is gray and the other is white. When installing the gray core version on the A252 copier, unwind one loop, as shown.

***For A252 copier***

14. Connect the roll feeder harness to the copier main board and original feed motor drive board [K] {2 connectors [G] and 1 grounding wire [H] (1 screw with spring washer)}.

***For A251 copier***

14. Connect the roll feeder harness to the copier main board {2 connectors [G] and 1 grounding wire [H] (1 screw with spring washer)}.
15. Connect the roll feeder heater harness connector [I] to the copier ac drive board connector.
16. ***220 ~ 240 V versions only***
    Install the ground plates [L, M] (1 screw with spring washer and 1 washer each).
17. Install the harness covers [J] (1 screw each).
18. Reattach all the covers and manual feed table excluding the roll feeder right cover.




| Length / Temperature | 300 | PRG. NO. | 1100 | PRG. NO. |
|---|---|---|---|---|
| NORMAL | XX | 42 | XX | 45 |
| HIGH (VELLUM) | XX | 43 | XX | 46 |
| LOW (FILM) | XX | 44 | XX | 47 |

19. Plug in the power supply cord and turn on the main switch.
20. Press the following keys on the operation panel:
    Clear Modes key [A]
    + key [B]
    – key [C]
    Clear/Stop key [D]
21. Press the Clear/Stop key again and hold it down for longer than 3 seconds. The roll paper end and call service indicators will blink (SP mode).
22. Select 40 using the + and - keys. Enter “1” by pressing the following keys.
    Function Select key [E]
    + key
    RF Select key [F].
23. Input values into SP modes 42 to 47 in accordance with the decal that is attached to stuck on the right side plate.
24. Press the Clear Modes key 3 times to leave the SP mode.
25. Reattach the roll feeder right cover.
26. Check the roll feeder operation.

# 4. SERVICE TABLES

## 4.3 SERVICE TOOLS

### 4.3.1 SERVICE PROGRAM MODE

All items except for the following are common with the A163 copier. Please refer to the A163 copier service manual.

***Service Program Mode Table***

| Mode No. | | Function | Data |
|---|---|---|---|
| *6 | Paper Feed Out Waiting Time Setting | Refer to the A163 service manual for details. The paper from the roll feeder is fed out only when the roll feeder is attached to the A251 copier. | **0: 2 minutes**<br>1:1 minute<br>2: 2 minutes<br>3: 4 minutes<br>4: 5 minutes |
| *13 | Original Feed Out Waiting Time Setting | Select the time to when the original is automatically fed out after it has been set on the original table in the manual feed mode. (A252 copier only) | **0: 2 minutes**<br>1:1 minute<br>2: 2 minutes<br>3: 4 minutes<br>4: 5 minutes<br>5: No auto feed out |
| *14 | Original Feed Start Time Setting | Selects the time to when the original feed roller starts rotating after the original entrance sensor or original rear sensor for the rear feed is actuated (A252 copier only). | 0: 1 second<br>1: 2 seconds<br>2: 3 seconds<br>**3: 4 seconds**<br>4: 5 seconds<br>5: 6 seconds<br>6: 7 seconds |
| *15 | Auto Shut-off Time Setting (120 V machines only) | Determines the auto shut-off time. | 1 ← **30** → 240 |
| *16 | Original Hold Mode | After original scanning is finished, the original exit roller stops before completely feeding out the original. This is to prevent the original from dropping onto the floor after scanning.<br>The original is fed out when the C/⊘ key is pressed or when the next original is inserted A252 copier only). | 0: No<br>**1: Original Hold mode** |
| *17 | Length Size Magnification | Adjusts the speed of the original feed motor (A252 copier only).<br>The setting can be changed by the key operation. | -1.0 (shorter) ← **0.0** → 1.0 (longer) |
| *18 | Semi-synchro Cut Original Scanning Mode | Selects whether the roll paper cut key must be pressed at the appropriate time when the trailing edge of the original passes the Semi-synchro cut mark, or whether the original must be inserted again after the original is scanned and the length is measured (A251 copier only). | **0: Pressing the roll paper cut key**<br>1: Inserting the original again |

Service Tables

| Mode No. | | Function | Data |
|---|---|---|---|
| *19 | Synchro-cut Length Adjustment | Adjusts the cut length in the semi-synchro cut mode (A251 copier).<br>Adjusts the cut length in the synchro cut, preset cut, and variable cut modes (A252 copier). The setting can be changed by a key operation. | -25 (Shorter) ← **0** → 25 (Longer)<br>1 mm/step |
| *22 | Fixed Paper Size Pattern Setting | "42.0" size is added to the following modes in the inch mode: Refer to the A163 copier manual and page 4-13 of this manual for details.<br>0, 1, 2, 3, 4, 7, 8, 9, 11, 12, 13, and 18 | |
| *33 | Not Used | | |
| 48 | Semi-synchro-cut Length Adjustment | Adjusts the cut length in the semi-synchro cut mode (A251 copier only). | -10 (Shorter) ← **0** → 10 (Longer)<br>0.1 %/step |
| 49 | Main Motor Speed Adjustment | (Jam code numbers have been changed from those used in the A163 copier.) If the main motor speed is incorrect, rJ98 or rJ99 will be indicated when a long copy is made. In these cases this adjustment is required. | **0: Standard**<br>-9 ← **0**→ 11 |
| 56 | Copy Number Limit Setting | Determines the maximum copy number. The default settings for the A251 and A252 copiers are different. | **0: 99 sheets (A251)**<br>**1: 10 sheets (A252)**<br>2: 20 sheets<br>3: 30 sheets<br>4: 40 sheets<br>5: 50 sheets<br>6: 60 sheets<br>7: 70 sheets<br>8: 80 sheets<br>9: 90 sheets |
| 57 | Not Used | | |
| 58 | Repeat Copy Length Limit Setting | Determines the maximum copy length for repeat copy (A252 copier only). | **0: 1,200 mm/48 inch**<br>1: The maximum paper length determined by SP55. |
| 67 | Machine Operation Counter | Displays the total time (hours) of the machine operation (total time of the motor rotation). | **dc = X,XXX** |
| 69 | Total Copy Length /Number Display (Feet) | Displays the total copy length by feet. | **SP69: t6 =XXX,XXX** |
| 80 | Developer Initialization Number Counter | Displays the total number of developer initializations (SP36). Also displays the developer counter (SP77) at the last developer initialization. | **dnF = XX (total number of developer initializations)**<br>**Hde = XX,XXX (developer counter at the last developer initialization** |
| 81 | Toner End Number Counter | Displays the total number of toner end conditions (dtE). Also, displays the toner counter (SP78) at the last toner end condition (Hdt). | **dtE = XX**<br>**Hdt = XX,XXX** |

| Mode No. | | Function | Data |
|---|---|---|---|
| 82 | Toner Near End Counter | Displays the total number of toner near end conditions (dtn). Also, displays the toner counter (SP78) at the last toner end condition (Hdt). | **dtn = XX**<br>**Hdt = XX,XXX** |
| 83 | Not Used | | |
| 84 | Not Used | | |
| 85 | Number of Misfeeds by Location | Displays the total number of originals in the paper length indicator and paper misfeeds by location in the leading edge indicator. | **Jt = X,XXX (Total Jam)**<br>**J1 ~ J8 (initial jam)**<br>**J10 ~ J45 (original jam)**<br>**J51 ~ J72 (copy paper jam)**<br>**J80 ~ J99 (roll feeder paper jam)** |
| 90 | Number of Service Call by Location | Displays the total number of service calls (SC) in the paper length indicator and SC codes by location in the leading edge indicator. | **Et = X,XXX (total SCs)**<br>**E1 ~ E15 (each SC)** |
| 91 | Service Call Records | Displays the last five service calls one after the other. | **E1 = XX (The last SC code)**<br>**E2 = XX (1 before the last SC code)**<br>**E3 = XX (2 before the last SC code**<br>**E4 = XX (3 before the last SC code**<br>**E5 = XX (4 before the last SC code**<br>**Beeper (XX = SC code)** |
| 92 | Not Used | | |
| 93 | Not Used | | |

| Mode No. | | Function | Data |
|---|---|---|---|
| -1 | RAM Clear | Clears selected data items from the RAM. To clear the memory, input the number of the item you want to delete, then press the # key.<br>**Note:** If all the memory is cleared (if a number from 20 to 28 is selected), reinput the factory settings that are shown on the decal attached inside the upper right cover. Please refer to page 4-14 for the default settings for each destination. (When No. 10 to 26 is selected.) | 0: Not Used<br>1: Machine Operation (The memory for SP67)<br>2: Copy Length Counter (SP69 to 75)<br>3: OPC Counter (SP76)<br>4: Developer Counter (SP77) (*Note1)/ Developer Initialization Number (SP80)<br>5: Toner Counter (SP78) /Toner End Number (SP81)/Toner Near End Number (SP82)<br>6: Counter for toner density step. (*Note2)<br>7: Clear data No.1 to 9 and 53.<br>8: SC Counter (SP90 to 91)<br>9: Jam Counter (SP85 to 86)<br>10: Change the settings to the Japan version |

***Note1:**
This counter is not used for the toner density step control (described on page 2-16 in the A163 manual).

***Note2:**
For the toner density step control, this counter counts down from 150 (m) to 0 (m) after the developer initialization. When the developer initialization is done, this counter is set to 150 and after 150 m of copies, the counter stays at 0. If this counter is cleared, the counter is set to 0.

| Mode No. | | Function | Data |
|---|---|---|---|
| -1 | | | 11: Change the settings to the U.S.A. version<br>12: Change the settings to the Europe version<br>13: Change the settings to the Asia version<br>14: Charge the settings to the Hoechst version<br>15: Change the settings to the Regma version<br>16: Change the settings to the K+E version<br>17: Factory use<br>18: Not Used<br>19: Not Used<br>20: Clear all the memory and change the settings to the Japanese version<br>21: Clear all the memory and change the settings to the U.S.A. version<br>22: Clear all the memory and change the settings to the Europe version<br>23: Clear all the memory and change the settings to the Asia version<br>24: Clear all the memory and change the settings to the Hoechst version<br>25: Clear all the memory and change the settings to the Regma version<br>26: Clear all the memory and change the settings to the K+E version<br>27: Factory use<br>28: Not Used<br>29: Not Used<br>30: Clear all the memory |

| Mode No. | | Function | Data |
|---|---|---|---|
| -2 | Total Counter Unit Setting | Selects the unit in which the total counter counts up by. | 0: 1 yard<br>1: 1 m<br>2: 100 inches<br>3: 50 inches<br>4: A1 length (594 mm)<br>5: Sheet (Any size)<br>6: 1 foot |
| -5 | Registration Adjustment | Adjusts the paper registration. | 0: Standard<br>–9.9 ← **0** → 9.9 mm<br>Advance Delay |
| -23 | Toner Supply Periods in Toner End Condition | Selects the periods for supplying toner after clearing the toner end condition. | **0: 60 s**<br>1: 70 s<br>2: 80 s<br>3: 90 s |
| -24 | Original Feed Motor Speed Adjustment | Adjusts the speed of the original feed motor (A252 copier only). | -50 (Faster) ← **0** → 50 (Slower)<br>0.025 %/step |
| -27 | Factory Use Only | | |
| -28 | Length Size Magnification Compensation on Leading Edge | The fusing roller's speed is slightly higher than the drum speed.<br>The speed of the copy paper transport will slightly increase after the leading edge of the copy paper enters the fusing unit.<br>To compensate for this, the speed of the original feed motor is corrected from the leading edge to 183 mm (A252 copier only). | -100 ← **10** → 100<br>(Shorter) (Longer)<br>–2.5% +2.5% |
| -29 | Registration Adjustment for the Rear Feed | Adjust the paper registration for the rear original feed (A252 only).<br>If the setting of SP#-74 is 1, this setting is used for the paper registration for the front original feed as well as the rear original feed. In this case, this adjustment is added to the SP#-5 adjustment. | 0: Standard<br>–9.9 ← **0** → 9.9 mm<br>Advance Delay |
| -35 | Synchro-cut Length Auto Adjustment (297 mm) | Adjusts the original cut length in Synchro Cut mode at 297 mm (standard length).<br>Insert the 297 mm length original five times (this number displayed on the copy number indicator can be changed : 1 to 10). If the actual original length is different from the standard length, input the following value in the cut length indicator before inserting the original:<br><br>Actual Length - Standard Length<br><br>Then the machine automatically calculates the correction value. The data is overwritten on SP#-38. | -9.9 ← **0** → 9.9<br>1 step = 0.1 mm |

| Mode No. | | Function | Data |
|---|---|---|---|
| -36 | Synchro-cut Length Auto Adjustment (1,189 mm) | Adjusts the original cut length in Synchro Cut mode at 1189 mm.<br>Insert the 1189 mm length original five times (this number displayed on the copy number indicator can be changed : 1 to 10). If the actual original length is different from the standard length, input the following value in the cut length indicator before inserting the original:<br><br>Actual Length - Standard Length<br><br>Then the machine automatically calculates the correction value. The data is overwritten on SP#-39. | -50 ← **0** → 50<br>1 step = 0.1 mm |
| -37 | Not Used | | |
| -38 | Synchro-cut Length Manual Adjustment (297 mm) | Adjusts the synchro cut length when a 297 mm original is used. Increasing the number will shorten the paper cut length. | -9.9 ← **0** → 9.9<br>1 step = 0.1 mm<br>(This value is over written when SP#-35 is performed.) |
| -39 | Synchro-cut Length Manual Adjustment (1,189 mm) | Adjusts the synchro cut length when a 1,189 mm original is used. Increasing the number will shorten the paper cut length. | -50.0 ← **0** → 50<br>1 step = 0.1 mm<br>(This value is over written when SP#-36 is performed.) |
| -62 | Light Sensor Voltage Display (Factory use) | Displays the real time light sensor output voltage.<br>In this mode, the PTL, main motor, QL and the bias voltage for non-image areas can be turned on and off using the Copy Media key.<br>Translucent paper = ON<br>Translucent Film = OFF<br>Even if the SP mode is canceled, the voltage is displayed during the stand-by condition or copy cycling.<br>To release this condition, turn the main switch off and on. | Fd = X,XX<br>Fd = Light Sensor Voltage |
| -70 | Synchro-cut Rear Feed Mode | Normally, an original cannot be inserted from the rear side in Synchro-cut mode. If 1 is selected in this mode, an original can be inserted from the rear side even if Synchro-cut mode is selected. This mode cannot be used with the trailing edge margin function. In this mode, the copy will be 194 mm longer than the original (A252 copier only). | 0: Normal<br>1: Synchro-cut Rear Feed Mode |

| Mode No. | | Function | Data |
|---|---|---|---|
| -71 | Cut Length Display Mode | In semi-synchro cut mode, the machine stores the 1st original cut length and displays it in the paper length counter. In this case, the paper cut mode will be automatically changed to the Preset/Variable cut mode. It is not necessary to press the cut key at the trailing edge of the original from the 2nd copy paper.<br>Before the 2nd original is inserted in the original table, the cut length in the cut length counter can be changed with the "+"/"–" keys within the range of the semi-synchro cut (410 mm ~ 2,000, 16.5' ~ 80.0'). | **0: Non-Length Display**<br>1: Length Display |
| -72 | Original Feed Motor Returning Speed Setting | Selects the speed of the original feed motor in returning original mode. A slower speed may be effective for the thinner original. | **0: 200 mm/s**<br>1: 150 mm/s<br>2: 100 mm/s |
| -73 | Roll Feeder Start Timing | Selects the Roll Feeder start timing, just after the original entrance sensor detects the trailing edge of the original, or just after the original entrance sensor detects the insertion of the original.<br>The setting change from 0 to 1 makes the first copy faster and 1 to 1 CPM increases. If the emergency stop key is pressed while the original is being transported to the scanning start position from the original insertion, it is necessary to check for paper left between the copier and roll feeder. Whichever setting is selected, the first copy and 1 to 1 CPM are within specification. | **0: Trailing edge is detected.**<br>1: Original insertion |
| -74 | Original Transport Mode | Select whether the original is transported from the original table to the scanning start position directly, or whether the original is returned to the scanning start position after the trailing edge of the original passes through the original registration sensor (A252 copier only).<br>The default setting (= 0) is effective for usage of curled originals. If the setting is changed from 0 to 1, perform the synchro-cut length auto adjustment (SP#-35, #-36). | **0: Original is transported directly to the start position.**<br>1: Original is returned to the start position after the original passes through the original registration sensor. |
| -75 | Fusing Temperature Recovery Setting | Determines how the machine recovers when the fusing temperature becomes lower than the target value during repeat copy operation when selecting mode 8 (highest temperature mode) (A252 copier only). | 0: No recovery (The machine simply continues copying, ignoring the fusing temperature.)<br>**1: Stops copying and feeds out the original.**<br>2: Stops copying but the original is not fed out. Copying starts again after the fusing temperature recovers. |

## 4.3.2 INPUT/OUTPUT CHECK MODE

### *Input Check Mode Table*

The on/off status of the selected electrical component is displayed in the paper length indicator (“ON” or “OFF” is displayed). If a program number not used is selected, “NOT” is displayed.

| Program No. | Sensor/Switch/Signal |
|---|---|
| -1 | Registration Sensor |
| -2 | Exit Sensor |
| -3 | Original Registration Sensor |
| -4 | Entrance Sensor |
| -5 | Main Motor LOC Signal<br>(Status is “ON” when the main motor is normally rotating.) |
| -6 | Door Switch<br>(Status is “ON” when the door is open.) |
| -7 | Original Entrance Sensor (A252 copier only) |
| -8 | Original Rear Sensor (A252 copier only) |
| -9 | Not Used |
| -10 | R/F Leading Edge Sensor |
| -11 | Roll Feeder Door Switch |
| -12 | Right Cutter Switch |
| -13 | Left Cutter Switch |
| -14 | Paper End Sensor |
| -16 | Exit Cover Open<br>(Status is “ON” when the door is open.) |

### *Output Check Mode Table*

Press the ☞ key to turn on the selected elected electrical component. The status of the component is displayed in the paper length indicator.

To turn off the component, press the ☞ key again.

| Program No. | Electrical Component | Note |
|---|---|---|
| 0 | Main Motor | |
| 1 | Toner Supply Clutch | |
| 2 | Pick off solenoid | |
| 3 | Registration Clutch | |
| 4 | Total Counter | |
| 5 | Pre-transfer Lamp | |
| 6 | Quenching Lamp | |
| 7 | Fusing Lamp | |
| 8 | Exposure Lamp (100% duty ratio) | |
| 9 | Exposure Lamp (selected ID level) | |
| 10 | Main Charge Corona | |
| 11 | Grid Voltage | |
| 12 | Transfer Charge Corona | |
| 13 | Not Used | |
| 14 | Separation Charge Corona | |
| 15 to 19 | Not Used | |
| 20 | Bias Voltage for the Image Area | |
| 21 | Bias Voltage for the Non-image Area | |
| 22 | Main Charge Corona + Grid Voltage | |
| 23 | Main Motor + PTL + Bias Voltage for the Non-image Area + Quenching Lamp | |
| 24 | Original Feed Motor (Forward) (A252 copier only) | |
| 25 | Original Feed Motor (Reverse) (A252 copier only) | |
| 26 | Roll Feeder Dehumidity Heaters | |
| 27 | Roll Feeder Cutter Motor *Note | |
| 28 | Roll Feeder Paper Feed Motor | |
| 30 | Original Feed Motor (Forward and Reverse) (A252 copier only) | Original feed motor operation changes every time the roll feed key is pressed.<br>1st time: Forward<br>2nd time: Stop<br>3rd time: Reverse<br>4th time: Stop |
| 34 | Main Switch OFF (Energy Star) | Turn off the main switch. |

**NOTE:** The cutter unit continuously moves between the left and right cutter switches. The number of the movements (0 ~ 9999) is displayed in the paper length indicator.

# 4.4 JAM CODE LIST

## 4.4.2 JAM CODE TABLE

| Code | Cause of Jam | Remarks |
|---|---|---|
| dJ01 | Initial misfeed at the original entrance sensor. | A252 only |
| dJ02 | Initial misfeed at the original registration sensor. | |
| dJ03 | Initial misfeed at the original rear sensor. | A252 only |
| dJ05 | Initial misfeed at the entrance sensor. | |
| dJ06 | Initial misfeed at the registration sensor. | |
| dJ07 | Initial misfeed at the exit sensor. | |
| dJ08 | Initial misfeed at the leading edge sensor of the roll feeder. | |
| dJ10 | Original entrance sensor OFF check during the original scanning process. | A252 only |
| dJ11 | Original entrance sensor ON check during the original scanning process. | A252 only |
| dJ17 | Original entrance sensor OFF check during the original returning process. | A252 only |
| dJ18 | Original entrance sensor ON check during the original returning process. | A252 only |
| dJ21 | Original registration sensor leading edge ON check during the original scanning process. | A252 only |
| dJ22 | Original registration sensor trailing edge OFF check during the original scanning process. | A252 only |
| dJ23 | Original registration sensor trailing edge ON check during the original scanning process. | A252 only |
| dJ25 | Original registration sensor leading edge OFF check during the original returning process. | A252 only |
| dJ26 | Original registration sensor leading edge ON check during the original returning process. | A252 only |
| dJ27 | Original registration sensor trailing edge OFF check during the original returning process. | A252 only |
| dJ28 | Original registration sensor trailing edge ON check during the original returning process. | A252 only |
| dJ32 | Original rear sensor trailing edge OFF check during the original scanning process. | A252 only |
| dJ33 | Original rear sensor trailing edge ON check during the original scanning process. | A252 only |
| dJ35 | Original rear sensor leading edge OFF check during the original returning process. | A252 only |
| dJ36 | Original rear sensor leading edge ON check during the original returning process. | A252 only |
| dJ40 | Emergency stop key pressed | |
| dJ41 | Original registration sensor OFF condition during the original scanning process. | A252 only |
| dJ42 | Original rear sensor OFF condition during the original returning process. | A252 only |
| dJ43 | Original rear sensor ON condition when clearing the original hold mode by pressing the C/⊘ key. | A252 only |

| Code | Cause of Jam | Remarks |
|---|---|---|
| dJ45 | Original registration sensor does not turn off after paper is fed 2,500 mm. | |
| pJ51 | Registration sensor OFF condition is detected just after starting the copy process. | |
| pJ52 | Registration sensor OFF condition is detected before starting the roll feeder again. | A251 only |
| pJ53 | Entrance sensor ON condition is detected during roll feeding. | |
| pJ55 | Registration sensor does not turn off after paper is fed 2,500 mm. | |
| pJ60 | Registration sensor OFF check at the paper leading edge. | |
| pJ61 | Registration sensor ON check at the paper leading edge. | |
| pJ62 | Registration sensor OFF check at the paper trailing edge. | |
| pJ63 | Registration sensor ON check at the paper trailing edge. | |
| pJ70 | Exit sensor OFF check at the paper leading edge. | |
| pJ71 | Exit sensor ON check at the paper leading edge. | |
| pJ72 | Exit sensor OFF check at the paper trailing edge. | |
| rJ80 | Leading edge sensor OFF check at the paper leading edge. | |
| rJ81 | Leading edge sensor ON check at the paper leading edge. | |
| rJ90 | Paper cutter failure | |
| rJ91 | Door open during roll feeding | |
| rJ95 | Roll feeder.<br>Motor does not turn off after paper is fed 500 mm more than the maximum paper length. | |
| rJ98 | Leading edge sensor ON check at the paper trailing edge during roll feeding. | |
| rJ99 | Leading edge sensor OFF check at the paper trailing edge during roll feeding. | |

## Fixed Paper Size Pattern Data (SP No. 22)

| **In mm Mode** |
|---|
| 0: 1189, 841, 594, 420, 297 |
| 1: 2000, 1189, 841, 594, 420, 297, 245 |
| 2: 2000, 1900, 1800, 1700, 1600, 1500, 1400, 1300, 1200, 1100, 1000, 900, 800, 700, 600, 500, 400, 300, 245 |
| 3: 2000, 1900, 1800, 1700, 1600, 1500, 1400, 1300, 1200, 1189, 841, 594, 420, 297, 245 |
| 4: 2000, 1800, 1456, 1189, 1030, 841, 728, 594, 515, 420, 364, 297, 245 |
| 5: 2000, 1500, 1230, 880, 625, 450, 330, 245 |
| 6: 1456, 1030, 728, 515, 364, 257 |
| 7: 2000, 1456, 1030, 728 515, 364, 257, 245 |
| 8: 2000, 1500, 1189, 1100, 841, 594, 420, 300, 297, 245 |
| 9: 2000, 1456, 1200, 1189, 1091, 1085, 1030, 1016, 1000, 939, 900, 880, 841, 813, 788, 765, 762, 758, 728, 679, 636, 625, 594, 591,546, 515, 508, 420,364, 297, 257 |
| 10: 2000, 1800, 1600, 1400, 1200, 1000, 800, 600, 400, 245 |
| 11: 2000, 1750, 1500, 1250, 1000, 750, 500, 245 |
| 12: 2000, 1950, 1900, 1850, 1800, 1750, 1700, 1650, 1600, 1550, 1500, 1450, 1400, 1350, 1300, 1250, 1200, 1150, 1100, 1050, 1000, 950, 900, 850, 800, 750, 700, 650, 600, 550, 500, 450, 400, 350, 300, 245 |
| 13: 2000, 1800, 1500, 1189, 1100, 1050, 1000, 950, 900, 841, 800, 750, 700, 650, 594, 550, 500, 420, 297, 245 |
| 14: 2000, 1800, 1456, 1200, 1189, 1085, 1030, 900, 880, 841, 765, 728, 625, 594, 515, 420, 364, 297, 245 |
| 15: 2000, 1800, 1500, 1200, 1189, 594, 245 |
| 16: 2000, 1800, 1500, 1200, 1000, 841, 420, 245 |
| 17: 2000, 1800, 1500, 1220, 1189, 915, 841, 610, 594, 458, 420, 305, 297, 245 |
| 18: 2000, 1800, 1500, 1189, 1118, 864, 841, 594, 559, 432, 420, 297, 280, 245 |
| 19: The data stored in SP23 to 32 |
| |
| **In inch Mode** |
| 0: 48.0, 42.0, 36.0, 24.0, 18.0, 12.0 |
| 1: 44.0, 42.0, 34.0, 22.0, 17.0, 11.0 |
| 2: 80.0, 72.0, 64.0, 48.0, 42.0, 36.0, 24.0, 18.0, 12.0, 9.6 |
| 3: 80.0, 72.0, 64.0, 44.0, 42.0, 34.0, 22.0, 17.0, 11.0, 9.6 |
| 4: 80.0, 72.0, 64.0, 48.0, 44.0, 36.0, 34.0, 24.0, 22.0, 18.0, 17.0, 12.0, 11.0, 9.6 |
| 5: 80.0, 70.0, 60.0, 50.0, 40.0, 30.0, 20.0, 10.0, 9.6 |
| 6: 80.0, 75.0, 70.0, 65.0, 60.0, 55.0, 50.0, 45.0, 40.0, 35.0, 30.0, 25.0, 20.0, 15.0, 10.0, 9.6 |
| 7: 80.0, 75.0, 70.0, 65.0, 60.0, 55.0, 50.0, 48.0, 42.0, 36.0, 24.0, 18.0, 12.0, 9.6 |
| 8: 80.0, 75.0, 70.0, 65.0, 60.0, 55.0, 50.0, 44.0, 42.0, 34.0, 22.0, 17.0, 11.0, 9.6 |
| 9: 80.0, 75.0, 70.0, 65.0, 60.0, 55.0, 50.0, 48.0, 44.0, 42.0, 36.0, 34.0, 24.0, 22.0, 18.0, 17.0, 12.0, 11.0, 9.6 |
| 10: 80.0, 77.5, 75.0, 72.5, 70.0, 67.5, 65.0, 62.5, 60.0, 57.5, 55.0, 52.5, 50.0, 47.5, 45.0, 42.5, 40.0, 37.5, 35.0, 32.5, 30.0, 27.5, 25.0, 22.5, 20.0, 17.5, 15.0, 12.5, 10.0, 9.6 |
| 11: 80.0, 77.5, 75.0, 72.5, 70.0, 67.5, 65.0, 62.5, 60.0, 57.5, 55.0, 52.5, 50.0, 48.0, 42.0, 36.0, 34.0, 24.0, 22.0, 18.0, 17.0, 12.0, 11.0, 9.6 |

| |
|---|
| 12: 80.0, 77.5, 75.0, 72.5, 70.0, 67.5, 65.0, 62.5, 60.0, 57.5, 55.0, 52.5, 50.0, 48.0, 42.0, 36.0, 24.0, 18.0, 12.0, 9.6 |
| 13: 80.0, 77.5, 75.0, 72.5, 70.0, 67.5, 65.0, 62.5, 60.0, 57.5, 55.0, 52.5, 50.0, 44.0, 42.0, 34.0, 22.0, 17.0, 11.0, 9.6 |
| 14: 80.0, 78.0, 76.0, 74.0, 72.0, 70.0, 68.0, 66.0, 64.0, 62.0, 60.0, 58.0, 56.0, 54.0, 52.0, 50.0, 48.0, 46.0, 44.0, 42.0, 40.0, 38.0, 36.0, 34.0, 32.0, 30.0, 28.0, 26.0, 24.0, 22.0, 20.0, 18.0, 16.0, 14.0, 12.0, 10.0, 9,6 |
| 15: 80.0, 72.0, 60.0, 48.0, 36.0, 24.0, 12.0, 9.6 |
| 16: 80.0, 78.0, 72.0, 66.0, 60.0, 50.0, 54.0, 48.0, 42.0, 36.0, 30.0, 24.0, 18.0, 12.0, 9.6 |
| 17: 80.0, 78.0, 75.0, 72.0, 69.0, 66.0, 63.0, 60.0, 57.0, 54.0, 51.0, 48.0, 45.0, 42.0, 39.0, 36.0, 33.0, 30.0, 27.0, 24.0, 21.0, 18.0, 15.0, 12.0, 9.6 |
| 18: 80.0, 72.0, 64.0, 57.3, 48.0, 46.8, 42.0, 40.6, 36.0, 34.0, 33.1, 28.7, 24.0, 23.4, 22.0, 20.3, 18.0, 17.0, 16.6, 14.4, 12.0, 11.7, 11.0, 10.1, 9.6 |
| 19: The data stored in SP23 to 32 |

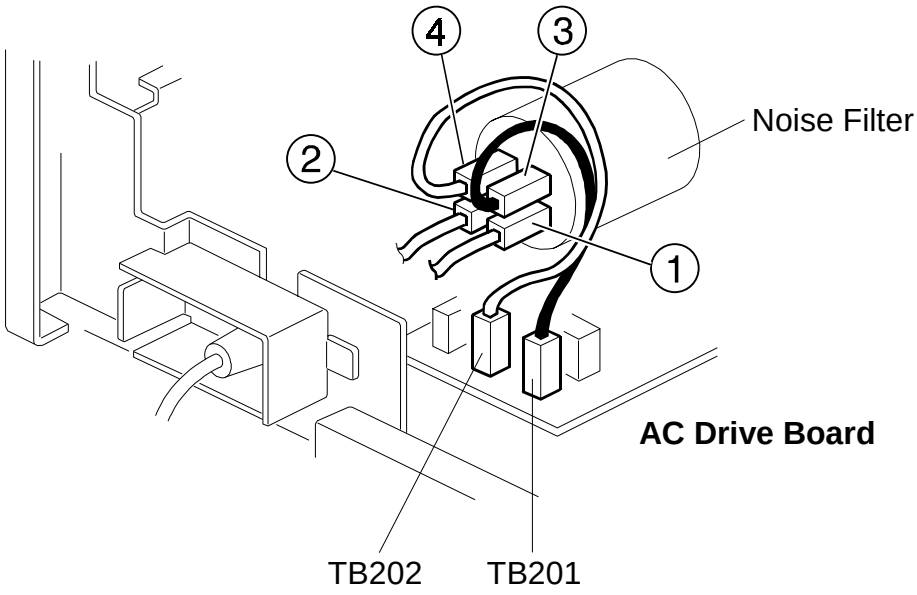
## Default Settings for Each Destination (SP#-1)

| SP. No. | Japan | U.S.A. | Europe | Asia | Regma/Ozalid | K + E |
|---|---|---|---|---|---|---|
| #1 | 1 | 2 | 2 | 2 | 2 | 2 |
| #2 | 0 | 0 | 0 | 0 | 0 | 0 |
| #3 | 1 | 1 | 1 | 1 | 1 | 1 |
| #4 | 0 | 0 | 0 | 0 | 1 | 0 |
| #5 | 2 | 2 | 2 | 2 | 2 | 2 |
| #6 | 0 | 0 | 0 | 0 | 0 | 0 |
| #7 | 0 | 0 | 0 | 0 | 0 | 0 |
| #8 | 0 | 0 | 0 | 0 | 0 | 0 |
| #9 | 0 | 0 | 0 | 0 | 0 | 0 |
| #10 | 0 | 0 | 0 | 0 | 0 | 0 |
| #13 | 0 | 0 | 0 | 0 | 0 | 0 |
| #14 | 0 | 0 | 0 | 0 | 0 | 0 |
| #15 | 30 | 30 | — | — | — | 30 |
| #17 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| #19 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| #20 | 0 | 1 | 0 | 0 | 0 | 1 |
| #21 | 0 | 0 | 0 | 0 | 0 | 0 |
| #22 | 0 | 0 | 0 | 0 | 0 | 0 |
| #-2 | 1 | 6 | 1 | 1 | 1 | 6 |
| #-3 | 0 | 1 | 0 | 0 | 0 | 1 |

#13, #14, #17: A252 only

# 4.6 SERVICE REMARKS

## 4.6.12 AC DRIVE BOARD



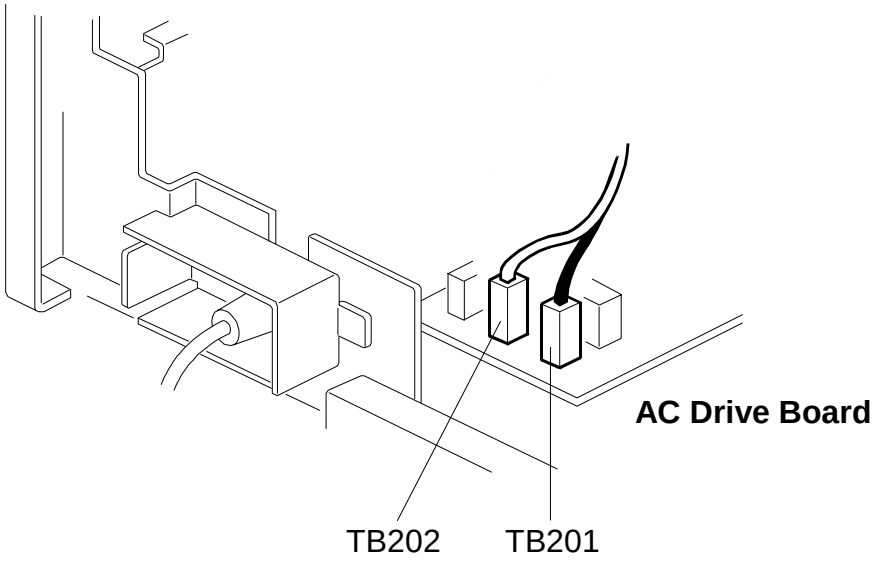

A252M500.WMF



***Service Remark for 220 ~ 240 V Version***

Make sure that the harnesses are connected to the noise filter and ac drive board as shown correctly

1. Set the power supply cord hot line (brown wire) connector to terminal 1 on the noise filter.
2. Set the power supply cord neutral line (blue wire) connector to terminal 2 on the noise filter.
3. Set the noise filter harness hot line (black wire) yellow connector to terminal 3 on the noise filter.
4. Set the noise filter harness neutral line (white wire) white connector to terminal 4 on the noise filter
5. Set the noise filter harness hot line (black wire) yellow connector to TB201 on ac drive board.
6. Set the noise filter harness neutral line (white wire) white connector to TB202 on ac drive board.




A252M500.WMF

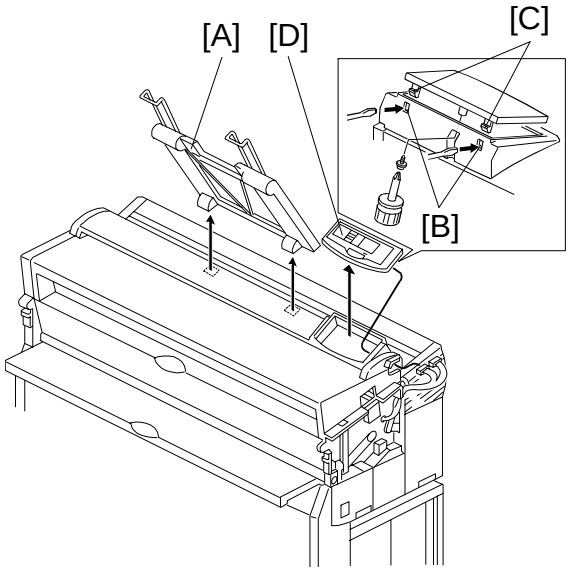
### *Service Remarks for 120 V Version*

Make sure that the harness is connected to the ac drive board as shown correctly

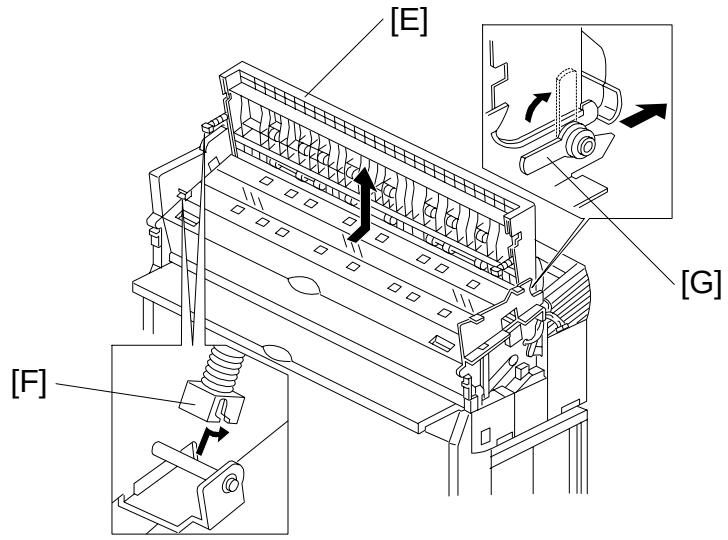
1. Set the power supply cord harness hot line (black wire) yellow connector to TB201 on ac drive board.
2. Set the power supply cord harness neutral line (white wire) white connector to TB202 on ac drive board.

# 5. REPLACEMENT AND ADJUSTMENT

## 5.2 OPTICS




A252R500.WMF

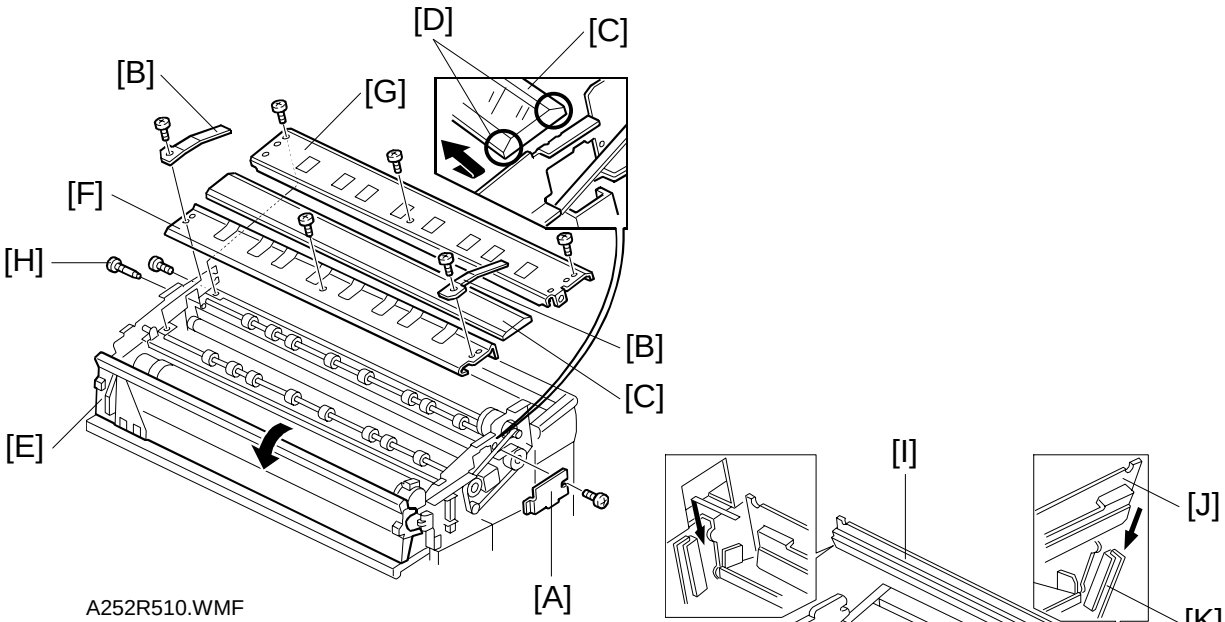



A252R501.WMF



### 5.2.1 ORIGINAL FEED UNIT REMOVAL (A252 ONLY)

1. Remove the left and right upper covers.
2. Remove the upper original guide [A].
3. Push the projections [B] into the holes [C] of the rear side of the original feed unit as shown and remove the operation panel [D] (1 screw and 2 connectors).
4. Open the original feed unit [E] and unhook the stoppers [F] at both ends.
5. Turn the original feed unit and two bushings [G] at both ends 1/4 of a turn and remove.




## 5.2.2 EXPOSURE GLASS REMOVAL (A252 ONLY)

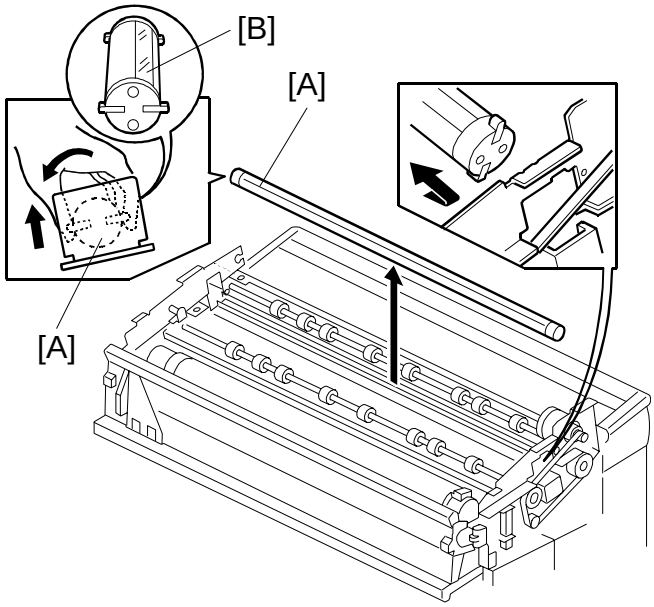
1. Remove the original feed unit.
2. Remove the exposure glass bracket [A] (1 screw).
3. Remove the exposure glass stoppers [B] (2 screws).
4. Remove the exposure glass [C] by sliding it out to the right side and lifting up the left side as shown.

**NOTE:** Make sure that the edge cut side [D] of the exposure glass is towards the upper side when reassembling.

## 5.2.3 FIBER OPTICS ARRAY REMOVAL (A252 ONLY)

1. Remove the exposure glass.
2. Open the toner supply cover [E] and remove the front original guide plate [F] (1 screw).
3. Remove the rear original guide plate [G] (4 screws and 1 pin [H]).
4. Lift up the fiber optics array [I] and remove it from the left side by sliding it out to the right side as shown.
   **NOTE:** When reassembling, be careful not to damage the right side [J] of the fiber optics array by touching the optics side plate [K].

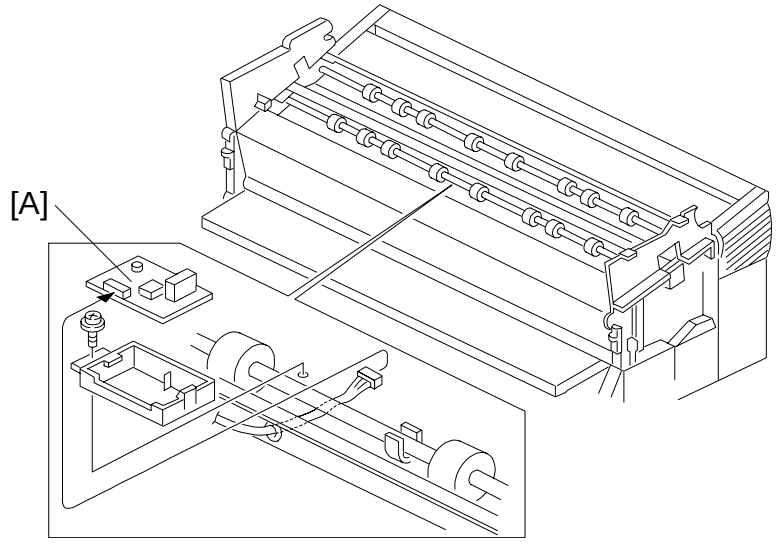
## 5.2.4 EXPOSURE LAMP REMOVAL




A252R511.WMF

1. Remove the fiber optics array.
   **NOTE:** If the exposure lamp is too tight to be turned, remove one side of the exposure lamp socket (1 screw) and remove the exposure lamp.
2. Turn the exposure lamp [A] 1/4 of a turn and remove.
   **NOTE:** Make sure that the direction of the aperture [B] of the exposure lamp is towards the fiber optics array side (rear side).

## 5.2.5 LIGHT SENSOR REPLACEMENT (A252 ONLY)




A252R503.WMF

1. Follow the steps from 1 to 2 of the fiber optics array removal.
2. Replace the light sensor [A] (1 screw, 1 connector).

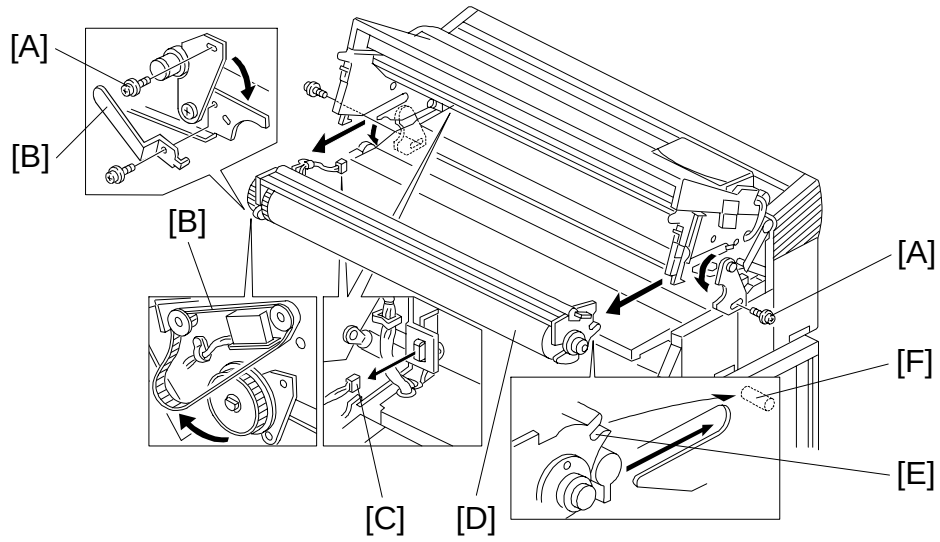
## 5.2.6 SYNCHRO-CUT LENGTH ADJUSTMENT (A252 ONLY)

This adjustment should be carried out when the original registration and/or original entrance sensor is replaced.

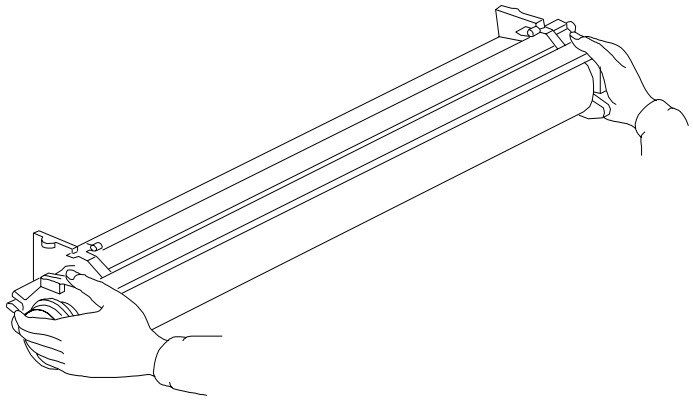
1. Measure the actual length of A3 (297) and A0 (1189) originals.
2. Access SP#-35 (synchro-cut length auto adjustment, 297 mm) and input the difference between the measured length and 297 mm.
3. Press the “RF Select” key. The copy quantity indicator blinks. Input the test copy number (default: 5).
4. Press the “RF Select” key.
5. Place the measured original (A3) on the original feed table. If the original is not placed correctly (placed diagonally), by pressing the C/◇ key once, this step can be canceled only one time. Otherwise, carry out this procedure from the beginning.
6. Repeat step 5 until the number in the blinking copy quantity indicator is “0”.
7. Press the “RF Select” key.
8. Access SP#-36 (synchro-cut length auto adjustment, 1,189 mm) and carry out the adjustment in the same way as for the 297 mm adjustment.

# 5.4 DRUM UNIT

## 5.4.1 DRUM UNIT REMOVAL




A252R504.WMF

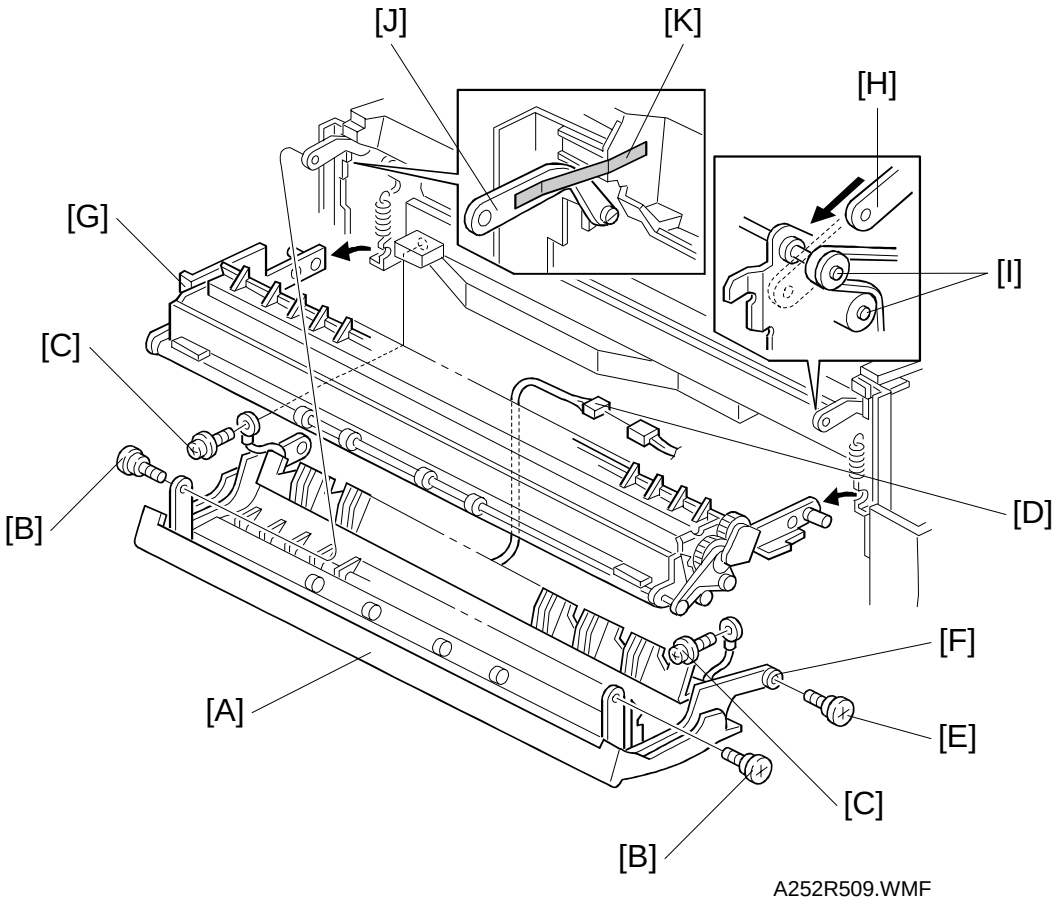


A252R505.WMF

1. Remove the development unit.
2. Remove the 2 screws [A] at both ends.
3. Remove the timing belt [B] (A251 copier)/grounding plate spring [B] (A252 copier) and disconnect the harness connector [C].
4. Remove the drum unit [D].
5. Place the drum unit on the flat floor.
   **NOTE:** 1) When reinstalling the drum unit, hook the drum unit guides [E] on the pins [F] of the copier side plates.
   2) Hold both ends of the drum unit to carry it.

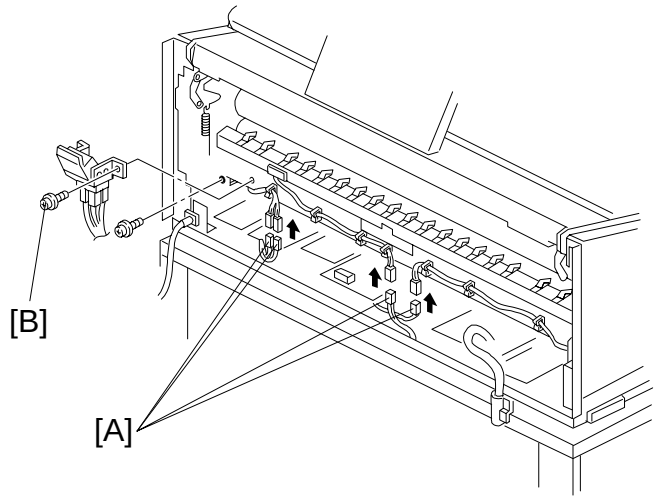
# 5.5 FUSING

## 5.5.1 FUSING UNIT REMOVAL

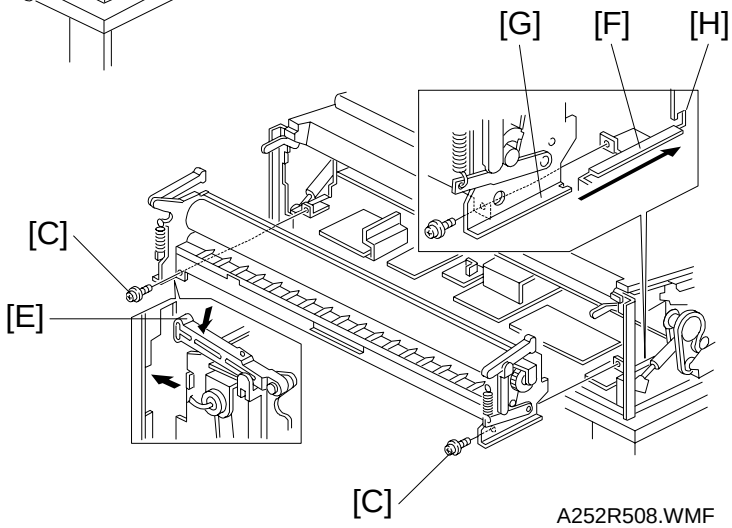



**NOTE:** Close the paper path section to remove and reinstall the fusing unit.

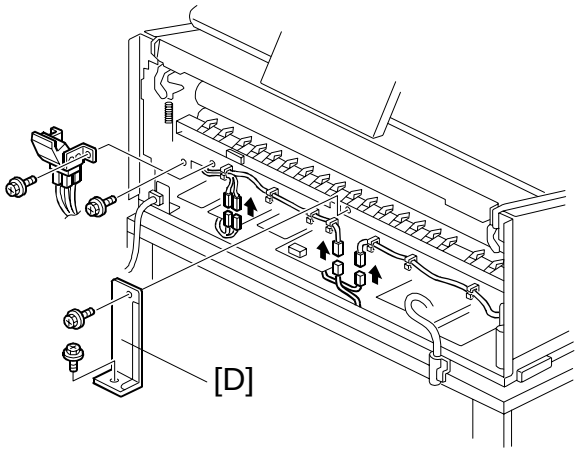
1. Remove the copier rear cover.
2. Open the exit cover [A] and remove the shoulder screws [B] at both ends. Remove the screws [C] for the grounding wires.
3. Disconnect the connector [D], remove the screw [E], and flex the hinge arms [F] of the exit cover slightly to the outside of the exit unit shafts and remove.
4. Turn the exit unit [G] 1/4 of a turn to the front side (rear view) and remove it by pulling out.
   **NOTE:** When reinstalling the exit unit, set the right hinge [H] between the two pulleys [I] and raise the left hinge [J] using tape [K].




A252R507.WMF




A252R508.WMF



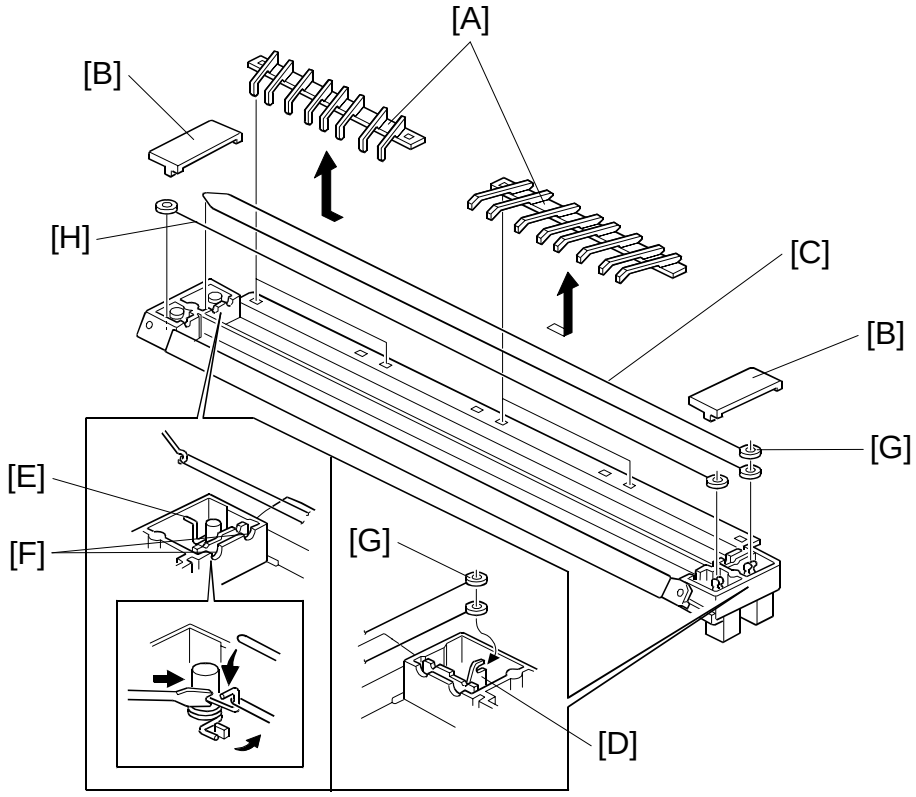

A252R506.WMF

5. Disconnect the connectors [A].
6. Remove the screw [B] fixing the safety switch bracket.
7. **220 ~ 240 V version only:**
   Remove the 2 screws [C] and bronze plate [D] (2 screws).
8. While pressing down the fusing pressure release bar [E], pull out the fusing unit.

**NOTE:** While pressing down the fusing pressure release bar [E], set the fusing unit on the guides [F] and align the cuts [G] to the side plates [H] at both ends when reinstalling the fusing unit.

# 5.6 T & S CORONA UNIT

## 5.6.1 TRANSFER AND SEPARATION CORONA WIRE REPLACEMENT




A252R512.WMF

**NOTE:** 1) Handle the new wire by the ends only. Oil from your hands may cause uneven charging of the drum.
2) Do not stretch or bend the corona wires.
3) Do not rub the corona wires with rough material (sand paper, etc.) as this will damage the corona wire.
4) Do not use any solvent to clean the wire as this will cause uneven charging of the drum.

### *Preparation*

1. Remove the T & S corona unit.
2. Remove the paper guides [A] and endblock covers [B].

### *Separation Corona Wire Replacement*

1. Remove the separation corona wire [C].
2. Hook one end of the new separation corona wire on the terminal [D] of the right endblock.
3. Hook the center part of the separation corona wire on the spring [E] of the left endblock.
4. Set the wire on the slots [F].
5. While pushing the spring in the direction of the arrow, hook the other end [G] of the separation corona wire on the terminal of the right endblock.
6. Make sure the wire is set on the slots [F].

### *Transfer Corona Wire Replacement*

1. Remove the transfer corona wire [H].
2. Install the new transfer corona wire.

# 5.8 COPY QUALITY ADJUSTMENT

## 5.8.4 REGISTRATION ADJUSTMENT

| | |
|---|---|
| **When:** | Registration is not within the adjustment standard. |
| **Purpose:** | To maintain proper registration. |
| **Adjustment Standard:** | 0 ± 3 mm (0 ± 0.12") |
| **Perform:** | SP#-5, SP#-29 (A252 rear original feed) |
| **How:** | Change the registration roller start timing by SP#-5 and/or SP#-29 |

1. Make several copies by using the manual feed or roll feeder and check the registration.
2. Adjust the registration using SP#-5 and/or SP#-29 if the registration is not within the adjustment standard.

# 6. TROUBLESHOOTING

## 6.2 SERVICE CALL CONDITION

The following service conditions are newly added as the A251 and A252 copiers. For other SC conditions, refer to the A163 copier for details. To clear SC E-15, access SP38 and change the data from “1” to “0”.

### 6.2.12 SC CODE E-14: ZERO CROSS SIGNAL DETECTION ABNORMAL

**- Definition -**

The zero cross signal is not detected within 0.5 second after the main switch is turned on.

**- Points to check -**

- Main board
- AC Drive board

### 6.2.13 SC CODE E-15: MAIN SWITCH ABNORMAL (U.S.A. VERSION ONLY)

**- Definition -**

The main switch does not turn off within 0.45 second after sending reset signal.

**- Points to check -**

- Main switch
- Main board

# 6.3 BLOWN FUSE TABLE

## 6.3.1 POWER SUPPLY UNIT

### *Europe Version*

| Fuse No. | Specification | Symptom |
|---|---|---|
| FU301 | 250 V 5A | No power. |
| FU302 | 250 V 6.3 A | Flourescent lamp does not light. Black copy. |
| FU303 | 250 V 6.3 A | No indication. Beeper sound. |
| FU304 | 250 V 6.3 A | E = 10 is indicated. |

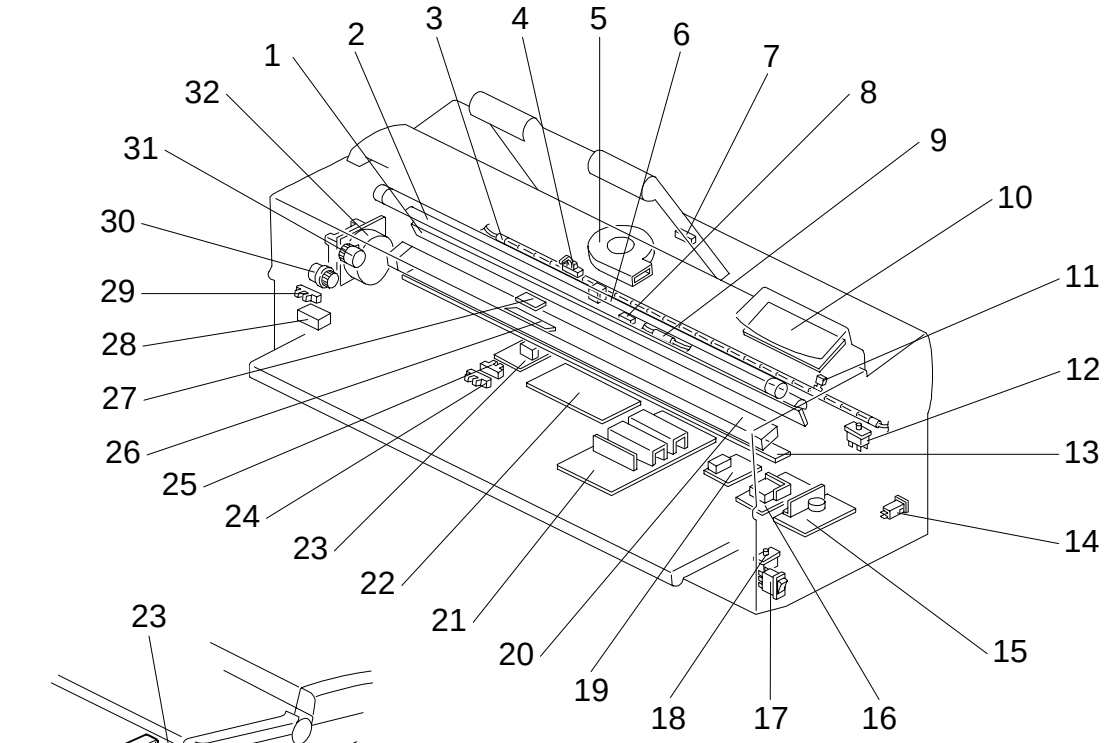
### *U.S.A. Version*

| Fuse No. | Specification | Symptom |
|---|---|---|
| FU301 | 125 V 8A | No power. |
| FU302 | 125 V 6.3 A | Flourescent lamp does not light. Black copy. |
| FU303 | 125 V 6.3 A | No indication. Beeper sound. |
| FU304 | 125 V 6.3 A | E = 10 is indicated. |

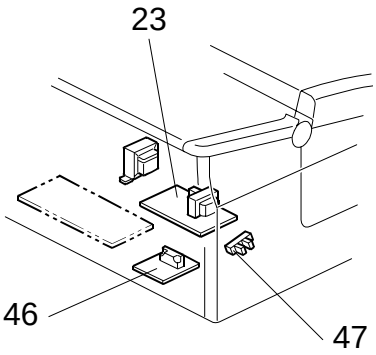
### *AC Drive Board*

| Fuse No. | Specification | Symptom |
|---|---|---|
| FU201 | 250 V 15 A<br>(U.S.A. version only) | No power. |
| CB201 | 250 V 8 A<br>(Europe version only) | No power. |

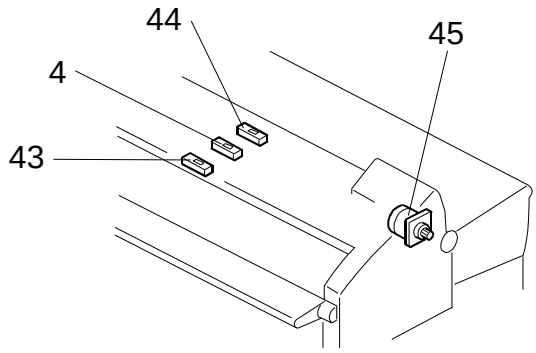
# ELECTRICAL COMPONENT LAYOUT



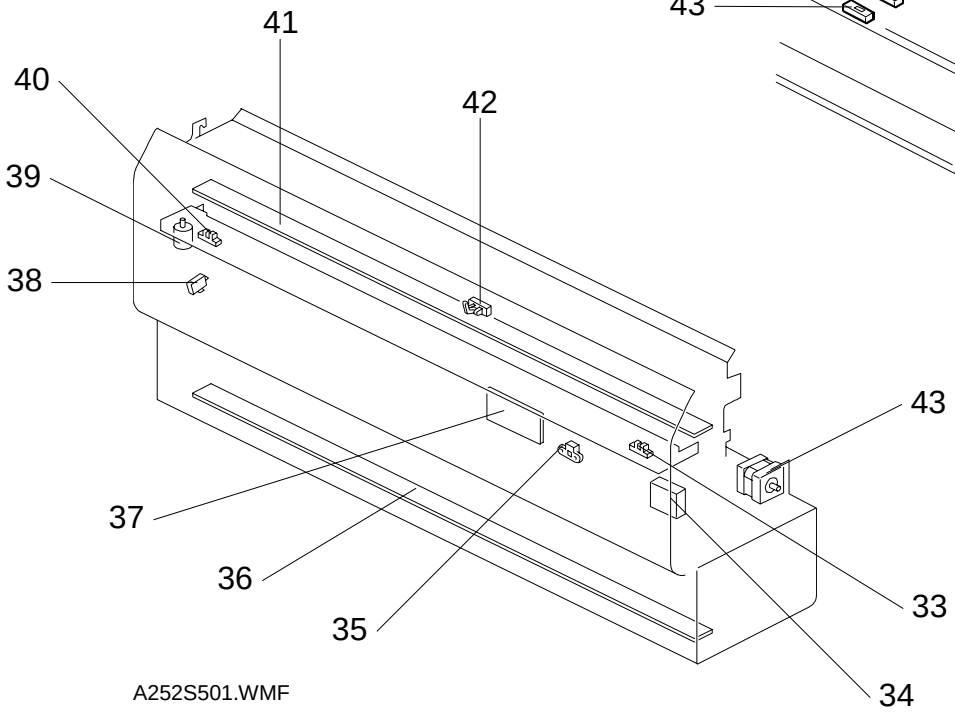

A252S500.WMF




A252S503.WMF




A252S502.WMF




A252S501.WMF

| Name | Index. No. | P to P Location |
|---|---|---|
| **Motors** | | |
| Main | 32 | L9 |
| Exhaust Fan | 5 | H11 |
| Paper Feed | 43 | G1 |
| Cutter | 39 | F1 |
| Original Feed | 45 | P11 |
| | | |
| **Magnetic Clutches** | | |
| Registration | 30 | N2 |
| Toner Supply | 31 | K1 |
| | | |
| **Solenoids** | | |
| Pick-off Pawl | 6 | I1 |
| | | |
| **Switches** | | |
| Main | 17 | G10 |
| Original & Paper Feed Safety | 18 | C11 |
| Fusing Exit Safety | 12 | C11 |
| Door | 38 | H3 |
| Left Cutter | 40 | E1 |
| Right Cutter | 33 | F1 |
| | | |
| **Sensors** | | |
| Door Open | 29 | Q4 |
| Toner Density | 26 | K2 |
| Original Registration | 4 | M6, Q6 |
| Light | 27 | N1 |
| Entrance Feed | 24 | L2 |
| Registration | 25 | M2 |
| Exit | 7 | Q4 |
| Paper End | 35 | D1 |
| Leading Edge | 42 | D1 |
| Humidity | 34 | C1 |
| Original Entrance | 43 | Q5 |
| Original Rear | 44 | Q6 |
| Exit Cover Open | 47 | Q3 |
| | | |
| **Printed Circuit Boards** | | |
| Main | 22 | J6 |
| PSU | 21 | K11 |
| AC Drive | 15 | C12 |
| FL Regulator | 23 | N9 |
| Operation Panel | 10 | A6 |
| RF Control | 37 | H2 |
| Original Feed Drive | 46 | E4 |
| | | |

| Name | Index. No. | P to P Location |
|---|---|---|
| **Lamps** | | |
| Exposure | 2 | M9 |
| Fusing | 3 | N12 |
| Pre-Transfer (PTL) | 20 | M2 |
| Quenching (QL) | 1 | J1 |
| | | |
| **Power Packs** | | |
| Charge/Bias/Grid Power Pack | 19 | H9 |
| Transfer/Separation | 16 | J9 |
| | | |
| **Thermistors** | | |
| Hot Roller | 8 | E10 |
| Pressure Roller | 11 | F10 |
| | | |
| **Thermofuses** | | |
| Fusing | 9 | L12 |
| | | |
| **Heaters** | | |
| Anticondensation | 13 | G11 |
| | | |
| **Others** | | |
| Total Counter | 28 | O1 |
| Circuit Breaker (Europe, Asia)/ Fuse (U.S.A.) | 14 | B12 |
| Upper RF Antihumidity Heater | 41 | A1 |
| Lower RF Antihumidity Heater | 36 | B1 |
| | | |